

Family Aplouactidae

1689

Bones of head with knob-like prominences. Vomer not toothed. No palatine teeth. Gill membranes free. No slit behind last gill. Scales absent, skin covered with velvety villi. Dorsal fin originating above or slightly before the eye. Anal spines absent, or indistinct. Caudal rounded. No free pectoral rays. ^{Ventral rays 5 or less, usually 4 or less.} ~~less than four ventral rays.~~ innermost not adnate.

~~Diagnosis~~ ~~Subgenus~~ ~~Cyprinodontes~~ ~~new~~ ~~hypothesis~~
Type: haso tuberosus Lacépède.

1187

haso tuberosus Lacépède, Hist. nat. Poiss.;
tome 3, 1802, pp. 105, 111, plate 7, fig. 3. no
locality (on Commerçon).

hasus tuberosus Bleeker, Ned. Tijds. Dierk.,
deel 1, 1863, p. 249 (Flores Island). — Günther,
Cat. Fish. Brit. Mus., vol. 3, 1861, p. 353 (Ceylon,
Ceram, Amietum). — Playfair, Fishes of
Zanzibar, 1866, p. 58 (Zanzibar). — Günther,
Journ. Mus. Godeffroy, band 4, 1875, p. 123,
plate 8 (Zanzibar, Mauritius, Amietum).
— Peters, Monatsb. Akad. Wiss. Berlin,
1876, p. 440 (Mauritius). — Day, Fishes of India,
pt. 2, 1876, p. 208. — Meyer, Ann. Soc. Espan.
Hist. nat. Madrid, vol. 14, 1885, p. 24 (North
Celebes; Kordo, Mysore). — Day, Fauna British
India, vol. 2, 1889, p. 146. — Ogilby, Mem.
Queensland Mus., vol. 3, 1915, p. 135 (Raine
Island).

Analysis of ^{Aplousinae} Genera

1690

a. Aplousinae. Gill slits not narrowed to a small opening near opercular tip.

b. Ventral rays I, 5; preorbital with strong spine; skin smooth.

c. Mouth small; palatine teeth present; D. XVI. Ocosia.

c.² Mouth large; palatine teeth obsolete; D. XIII; no barbels.

d. Lower pectoral rays branched. Snyderina.

d.² Lower pectoral rays simple.

e. No cleft behind fourth gill. Liocranium.

e.² Cleft behind fourth gill. Choridactylus.

b.² Ventral rays I, 2 to I, 4.

f. Preorbital with 2 strong spines, both projecting back behind eye; A. I, 7; ventral I, 2. Acanthospex.

f.² Preorbital with single strong spine.
 g.¹ Skin scaleless or nearly naked;
 dorsal not notched; ~~no barbel~~;
 palatine teeth present; anal
 spines 3; ventral I, 4 or 5.

h.¹ no barbels. Prosopodasys.

h.² Barbels present. Gymnapistes.

g.² Skin scaleless, covered with
 velvety prickles; dorsal undi-
 vidate; anal spines 2; ventral
 I, 2 or 3.

i.¹ A. I or II, 7 to 10. Cocotropus.

i.² A. III, 4. Cocotropsis.

f.³ Preorbital without spine;
 spinous dorsal deeply notched,
 first three spines separated;
 no palatine teeth; no anal spines;
 ventral I, 2.

f.¹ Dorsal begins close
 behind eye; crown well
 elevated; first 3 dorsal
 spines united, set off from
 rest of fin. Paraploactis.

1692
f.² Dorsal begins over hind
half of eye; crown low.

h.¹ First 3 dorsal spines
united, set off from
rest of fin. Aplactis.

h.² First 3 dorsal spines
not set off, D. VII, 15 to 18.

Aplactoides.

f.³ Dorsal begins over
middle of eye; 3 front
dorsal spines elevated,
form distinct but not
separated fin.

Membracidichthys.

f.⁴ Dorsal begins over
front half of eye; crown
low.

h.¹ First 5 dorsal spines
united, set off from
rest of fin.

Aplactisoma.

h.² First 4 dorsal spines
short, form separate
fin. Aniculeroxa.

1693
l.³ First 5 dorsal spines
long, pungent, different-
iated, but not separated
by notch from others.
Isopiscis.

f.⁵ Dorsal begins before eye;
3 separate from dorsal
spines. Sthenopus.

a.² Bathyploactinae. Gill slits
narrowed to a small opening
near opercular flap. Bathyploactis

Genus Acosia Jordan and Starks

Acosia Jordan and Starks, Proc. U.S. Nat. Mus., vol. 27, p. 162, 1904. (Type Acosia vespa Jordan and Starks, monotypic.)

Body elongate ovate, compressed. Head moderate. Snout long. Eye elevated, slightly postmedian in length of head. Mouth rather small, little inclined, lower jaw little protruding. Maxillary reaches below front of eye. Teeth fine, in bands in jaws, and on vomer and palatines. Preorbital armed with spine. Top and sides of head with small spines. Preopercle with 4 spines. Body

1164

4451. Apra Bay, Guam. November
19-21, 1907. Length 530 mm.

A1461 and A1462. Kait Point,
Libani Bay, Celebes. December 29,
1909. Length 455 to 565 mm.

A1557. Nan Wan, Formosa. January
25, 1910. Length 262 mm.

17976 U.S.N.M. Honolulu. Dr. J. H.
Streets. Length 290 mm.

32734 U.S.N.M. Indian Archipelago.
Leiden Museum. Length 74 mm.
As Larus amboinensis.

50792 U.S.N.M. Southern Japan.
Imperial Museum Japan. Length 107 mm.

52343 U.S.N.M. Samoa. Bureau of
Fisheries. Length 246 to 350 mm. 2 examples.

covered with smooth skin. Dorsal continuous, with rather high spines, membranes entire and soft rays slightly lower. Anal with 3 spines and 6 longer rays. Caudal small. Pectoral moderate, rays branched. Ventral moderate.

Small Japanese ~~tailfins~~ fishes, living in rather deep water. They have a high long dorsal, which begins over the middle of the eye.

Ocosia vespa Jordan and Starks

Ocosia vespa Jordan and Starks,
Proc. U. S. Nat. Mus., vol. 27, p. 162,
fig. 17, 1904 (type locality, Sagami
Bay, in 41 to 50 fathoms) —

Jordan, Tanaka, Snyder, Journ.
College Sci., Tokyo, vol. 1, no. 1,
p. 44, fig. 17, 1904 (type locality, Sagami Bay)

6441. Tilio Bay, Lubang. July 14,
1908. Length 260 mm. Brownish olive
above, becoming yellowish below.
Dorsal and anal olive yellow, margined
with blue; anal with 4 interrupted
cross bands of slate gray; dorsal
similar, except bands much more
broken, become almost an irregular
mottling; spines with blue bases.
Caudal with blue gray shades.
Paired fins similar to adjacent
regions of body.

1697

Depth $2\frac{7}{8}$ to 3; head $2\frac{2}{5}$ to $2\frac{3}{4}$, width $1\frac{4}{5}$ to 2. Snout $3\frac{1}{4}$ to $3\frac{2}{5}$ in head from snout tip; eye $4\frac{1}{5}$ to $4\frac{1}{3}$, $1\frac{1}{4}$ to $1\frac{1}{3}$ in snout, greater than interorbital; orbit $3\frac{1}{4}$ to $3\frac{1}{2}$ in head from snout tip; maxillary reaches $\frac{1}{5}$ to $\frac{1}{4}$ in eye, expansion 2 to $2\frac{1}{4}$ in eye, length $2\frac{1}{3}$ to $2\frac{1}{2}$ in head from snout tip; teeth in villiform bands in jaws, and on vomer and palatines; interorbital $6\frac{3}{4}$ to 7 low, concave; upper preorbital spine twice as long as lower, curved, twice as long as uppermost preopercular spine, below which 2 others. Gill rakers 4 + 7, low tubercles, $\frac{1}{3}$ of gill filaments, which $2\frac{1}{2}$ in eye.

Skin apparently scaleless, on trunk and tail very numerous, fine, parallel, close set, transverse striate like lines of minute

papillae. Lateral line superior, axial, incomplete behind; tubes 13, slender, narrow, and last 3 widely spaced.

D. XV, 9, origin of spinous fin begins over hind edge of orbit, first spine extends $1/4$ in space to tip of second spine, length of which $1\frac{1}{2}$ to $1\frac{4}{5}$ in total head length, second ray $1\frac{4}{5}$ to $1\frac{7}{8}$; A. III, 5, third spine 2 to $2\frac{1}{4}$, second ray $1\frac{3}{4}$ to $2\frac{1}{5}$; caudal $1\frac{1}{2}$ to $1\frac{3}{5}$, convex behind; least depth of caudal peduncle 4 to $4\frac{1}{2}$; pectoral $1\frac{1}{4}$ to $1\frac{1}{3}$, rays I, 11; ventral I, 5, fin $1\frac{1}{2}$ to $1\frac{4}{5}$ in total head length.

Pale brown generally, with about 7 slightly darker brownish transverse bands on body much broader than pale interspaces and sometimes edges or bordering

lines darker, producing still darker paired bands. Iris gray. Opercle white. Sometimes more or less distinct darker brown spots scattered on head and trunk. Usually dark brown bar forward from lower front eye edge over preorbital and another from lower hind eye edge over preopercle angle. Fins pale to whitish, with dark body bands reflected on bases of dorsals. Soft dorsal and anal with one to several dark bars transversely, made up of dark specks. Caudal with sub-terminal dark band. Paired fins pale, each with sub-terminal band of dark spots or specks. Pectoral usually with scattered dark specks medially.

Japan. The figure by Jordan and Starks is very misleading, for not only is the snout entirely

too long and its tip too low, but ¹⁷⁰⁰the
maxillary is far too short and
should reach below the front
edge of the eye. Though the
second spine was ~~very~~ likely
longer than any of those following,
just as it is in my Philippine
series. The very conspicuous, white
and contrasted opercle is not
shown in sufficient contrast.

[687] D. 5310.

November 4, 1908. Length 48 to 57 mm.
Ten examples.

U. S. N. M., No. 50911. Sagami
Bay, Japan. Albatross Collection
(3757). In 41 fathoms. May 19, 1900.
Length 49 mm. Type.

U. S. N. M., No. 51463. Sagami
Bay. Albatross Collection (3764).
In 44 fathoms. May 22, 1900.
Length 54 mm.

Genus Snyderina Jordan and Starks

Snyder^{ina}, Jordan and ~~Snyder~~^{Starks}, Proc.
Cal. Acad. Sci., vol. , p. 381, 1901.

(Type Snyderina yamanokami
Jordan and Starks, monotypic.)

Body elongately ovate, rather robust, compressed. Head moderate, little elevated. Snout short, oblique. Eye rather large, little elevated, near first third in head. Mouth inclined, lower jaw little protruded. Maxillary inclined, reaches below eye, third end expanded. Teeth villiform, in bands in jaws, and on vomer, none on ^{Preopercle} palatines. ^{with long upper spine and 4 smaller ones} Head naked, with ridges, and without cranial spines. Gill membranes narrowly

united and narrowly connected
with isthmus. No slit after
fourth gill. Branchiostegals 7.
Skin with sparse, nonimbricate,
thickened or granular scales.
Lateral line present, axial.
Dorsal continuous, begins over
middle of eye, spines and
rays subequal in height, and
last ray joined to caudal peduncle.
Anal with 3 graduated spines,
soft fin higher, like soft
dorsal. Caudal rounded.
Pectoral moderate, rays
branched. Ventral moderate.
One species.

1703

Snyderina yamanokami Jordan
and Starks

Snyderina yamanokami Jordan
and Starks, Proc. Cal. Acad. Sci.,
vol. , p. 381, Pl. 20, 1901 (type
locality, Kagoshima); Proc. Ac. S.
Nat. Mus., vol. 27, p. 165, fig.
18, 1904 (type).

? Tetraroge quentheri Boulenger,
Proc. Zool. Soc. London, p. 239, pl.
25, 1889 (type locality, Muscat,
Eastern Arabian); Ann. Mag.
Nat. Hist., London, ser. 7, vol. 7,
p. 262, 1901 (N. lat. $23^{\circ}56'$, E. long.
 $58^{\circ}5'$, in 142 fathoms).

Genus Liocranium Ogilby

Liocranium Ogilby, Proc. Roy. Soc. Queensland, vol. 18, p. 25, Sep. 8, 1903. (Type Liocranium praepositum Ogilby, monotypic.) (Liocranum Koch 1866 in arachnida not involved.)

Abieichthys Whitley, Records Austral. Mus., vol. 15, ^{no.} pt. 5, p. 304, April 6, 1927. (Type Liocranium praepositum Ogilby, orthotypic.)

Vadesuma Whitley, op. cit., vol. 19, no. 7, p. 94, Aug. 2, 1933. (Type Paracentropogon scorpio Ogilby, orthotypic.)

4714 and 4715. Lippo Point, Bulayan
Bay. January 18, 1908. Length 287 to
320 mm. Ground color dark olive green,
becoming lighter below. Back profusely
with minute, rounded, sapphire spots
elongated toward long axis and changing
to vertical lines along sides. Minute
spots of less vivid sapphire on belly.
Head lighter green, with sapphire
spots. Sapphire line under eye extending
through nostrils on to snout. Lips
sapphire. Blue line on back at base
of dorsal. Blue line extending along
breast below gill margin becoming
wider at pectoral base and extends
around pectoral. Brilliant purple
spot at caudal peduncle junction.

Body ovate, strongly compressed, back elevated in front. Head large, upper front profile declivous and concave, parabolic above. Snout short, broad, profile convex. Eye large, sublateral, little elevated, in front half of head. Mouth rather large, lower jaw protruded, little inclined. Premaxillaries protractile. Maxillary extends below eye, expanded terminally. Jaws with interrupted bands of minute, conical teeth, and similar teeth on vomer, none on palatines. Nostrils large, well separated, feebly tubular, without tentacles. Gill rakers short, stout, tips densely spinulose. Gills 4, no cleft behind fourth. Branchiostegals 6. Cranial ridges feeble, smooth; 2 preorbital spines, concealed in life; preopercle with

3 to 5 spines; opercle with 2 smooth, feeble, divergent ridges. Air bladder large, strong, simple. Intestines folded. Vertebrae 24, of which 16 caudal. Dorsal continuous, begins over front of eye, spines flexible but acute, spinous fin over twice soft fin. Anal with 3 graduated spines, soft fin like soft dorsal. Caudal large, slightly rounded. Pectoral large, cuneate, symmetrical, undivided, with 14 rays of which some of lower simple. Ventral small, with spine and 4 rays.

Australia.

Liocranium praepositum Ogilby

Liocranium praepositum Ogilby,
Proc. Roy. Soc. Queensland, vol. 18,
p. 25, Sep. 8, 1903 (type locality,
coast of Queensland). — McCulloch,
Biol. Res. Endeavour, ~~vol.~~ 4, pt. 4, p.
196, pl. 57, fig 2, Oct. 31, 1916
(Great Sandy Strait; Port Curtis;
Moreton Bay). — McCulloch and Whitley,
Mem. Queensland Mus., vol. 8, pt. 2, p. 163, July 7, 1925 (reference).

Abeichthys praepositus McCulloch,
Mem. Australian Mus., no. 5, pt. 3,
p. 390, Nov. 28, 1929 (reference).
Whitley, Records Austral. Mus., vol. 15,
no. 5, p. 304, April 6, 1927 (reference). —

1199
with median caudal rays. Dorsals
dark green, line of blue spots along
front half of base and few blue spots
on membrane, especially anteriorly;
irregular yellow-green mottlings on
terminal third; narrow margin dark
blue. Anals like dorsals; line of blue
spots at base of membrane and
margin narrowly blackish blue.

Caudal very dark olive green, produced
tips black; white area immediately
anterior to bases of caudal filaments.
Pectoral dusky purplish above and
bluish reflections below, border
colorless. Ventral light reddish brown,
rays white basally. Vent in dirty
white region.

Depth $2\frac{1}{3}$ to $2\frac{1}{2}$; head $2\frac{1}{2}$ to $2\frac{3}{5}$.
 Snout $4\frac{1}{10}$ in head from snout
 tip; eye $2\frac{3}{4}$ to $3\frac{2}{3}$, ~~1 to $1\frac{2}{5}$ in~~
~~snout~~. subequal to equal to snout,
 greater than interorbital; max-
 illary reaches $\frac{2}{3}$ in eye or to its
 hind edge, expansion $1\frac{1}{2}$ in eye;
 inter length 2 to $2\frac{1}{3}$ in head
 from snout tip; interorbital $2\frac{3}{4}$
 to $2\frac{7}{8}$, elevated. Upper preopercular
 spine not quite long as second
 preorbital spine; Third preopercular
 spine extends back to or little
 beyond hind pupil edge. Gill
 rakers $3+9$, few claviform near
 hinge, rest tubercular.

D. XIII, 7, or 8, third spine
 $1\frac{9}{10}$ in total head length, fourth
 ray $1\frac{9}{10}$; A. III, 5, third spine
 $1\frac{9}{10}$, first ray $1\frac{2}{3}$; caudal $1\frac{4}{7}$,
 rounded behind; least depth
 of caudal peduncle 4; pectoral

$1\frac{1}{5}$, rays I, 6, VII; ventral $1\frac{4}{5}$ in total head length.

Pale reddish brown, head, thorax and abdomen lighter, with yellowish tinge. Dusky band below second and third dorsal spines, passing downwards through eye, where it forks with front part to base of preorbital spine and hind part to that of upper preopercular spine. Broad black band from sixth and seventh spines to middle of depressed pectoral. Black spot below and on basal half of last 2 spinous and first 2 soft rays, not reaching lateral line. Sometimes smaller black spot below and behind. Vertical fins and pectorals with numerous small brown spots or dark edged ocelli. Ventral gray. Length 120 mm. (Ogilby, McCulloch)
Tues Island.

Liocranium
~~Paracentropogon~~ scorpio (Ogilby)

1710

Paracentropogon scorpio Ogilby,
New Fishes of the Queensland Coast,
p. 115, Dec. 20, 1910 (type locality,
Off Cape Capricorn).

Liocranium scorpio McCulloch, Mem.
Queensland Mus., vol. 7, p. 175, pl. 11, fig.
1, 1921.

Abcichthys scorpio McCulloch,
Austral. Mus. Mem., no. 5, pt. 3, p.
390, Nov. 28, 1929 (reference).

Vadesuma scorpio Whitley, Rec.
Austral. Mus., vol. 19, no. 1, p. 94,
Aug. 2, 1933 (reference).

1148

haso unicornis (Forstkal).

Chaetodon unicornis Forstkal, Descr. Animal.,
1775, pp. XIII, 63. Ojedda, Red Sea. —
Linnaeus, Syst. Nat. Lin., 1789, p. 1268 (Arabia).
— Walbaum, Arted. Pisc., vol. 3, 1792, p. 440
(on Forstkal).

Chaetodon unicornis Bonnaterre, Tabl. Ichth.,
1788, p. 82, plate 95, fig. 39 (Red Sea).

Aspisurus unicornis Rüppell, Atlas Reise.
Nord. Afr. Fisch., 1828, p. 60 (Red Sea).

hasus unicornis Günther, Cat. Fish. Brit.
Mus., vol. 3, 1861, p. 348 (Ceylon, Frankland
Island, Red Sea, Tueiteum). — Klunzinger,
Verh. zool. bot. Ges. Wien, band 21, 1871, p.
512 (Koseir, Red Sea). — Günther, Journ.
Mus. Godeffroy, band 4, 1875, p. 118, plate
78, figs. 1-4 in text (Huahine; Tahiti).
— Peters, Monatsh. Akad. Wiss. Berlin,
1876, p. 440 (Mauritius). — Day, Fishes
of India, pt. 2, 1876, p. 209. — Streets,

1711

Genus Choridactylus Richardson

Choridactylus Richardson, Voy.
Samarang, Fish, p. 8, 1848. (Type
Choridactylus multibarbis Richardson,
designated by Bleeker, Verh. Kon.
Akad. Wet. Amsterdam, vol. 16,
no. 2, p. 6, 1876.)

Chorismodactylus Günther, Cat.
Fish. Brit. Mus., vol. 2, p. 151, 1860.
(Type Choridactylus multibarbis
Richardson.)

Choridactylodes Gilchrist, ~~marine~~
Investig. South Africa, vol. 2, p. 101,
1902. (Type Choridactylodes
natalensis Gilchrist, monotypic.)

Posteriorly white line on head. From below fourth to sixth spines to pectoral base under bar broader than eye, narrowly margined bluish and obscure dusky line outside. Front portion of back, nape and sides of head with small bluish spots. Front of head crossed by 8 narrow bluish bars, another in premaxillary. Lips dusky. Obscure yellowish stripe under fleshy base of pectoral, orange above. Dorsal lemon yellow, dusky in spinous part. Anal dusky. Caudal lemon yellow with dusky. Paired fins dusky.

14784, 15399, 15633. Tablayan, Mindoro.

December 12-13, 1908. Length 138 to 193 mm.

10921. San Miguel Harbor. April 21, 1908.

Length 145 mm.

9125. San Roque, Leyte. July 29, 1909.

Length 258 mm.

Body elongately ovoid, compressed.
Head moderate, compressed,
with prominent ridges. Snout
short, rather steep. Eye elevated,
protrudes above, advanced.
Mouth low, terminal. Maxillary
extends below eye. Velliform
teeth in jaws, none on palate.
Transverse groove on occiput.
Preorbital, preopercle and
opercle with spines. Gill rakers
short. Cleft behind fourth gill.
Branchiostegals 6. No air bladder.
Pyloric appendages few. Skin
scaleless, papillose. Skinny
appendages on body. Lower jaw
with barbels. One dorsal with
13 to 15 pungent spines and 8 or
9 rays. Anal with 2 moderately
stiff spines and 8 or 9 rays.
Caudal convex behind. Pectoral

1713

with 3 detached rays. Ventral
with spine and 5 rays.
Indo-Pacific.

Analysis of Species

- a.¹ Choridactylus. Upper pectoral ray
not extended. multibarbil.
- a.² Choridactyloides. Upper pectoral
ray extended in filament long as
rest of fin. natalensis.

1714

Choridactylus multibarbis Richardson

Choridactylus multibarbis Richardson,
Voy. Samarang, Fish, p. 8, pl. 2, figs.
1-3, 1848 (type locality).

— Day, Fishes of India, pt. 1, p. 161,
pl. 39, fig. 2, 1875 (Madras; Fauna
of British India, vol. 2, p. 74, fig.
32, 1889 (copied)).

— Fowler, Journ. Bombay Nat. Hist.
Soc., vol. 30, no. 3, p. 642, June 30, 1925
(Madras).

1427

3 examples. Port Matalvi, Luzon.
November 23, 1908. Length 42 to 60 mm.

6889, 6997, 6998, Port San Pio Quinto,
Comiguin Island. November 10, 1908. Length
428 to 465 mm.

7045, 7102, 7103. Port San Pio Quinto.
November 11, 1908. Length 135 to 262 mm.

19816. Port San Vicente. November 18, 1908.
Length 53 mm.

15151. Port Usan, west of Pinas Island.
December 17, 1908. Length 150 mm.

7323. Puerto River, Mariveles. January 29,
1909. Length 82 mm.

7059 [448]. Romblon Harbor. March 25, 1908.
Length 135 mm. Lemon yellow above, pearl
gray to white below; from first dorsal
spine through eye to below chin dark bar
nearly wide as eye, pale orange brown
above, seal brown below eye and black
on throat, margined with bluish.

Chorismodactylus multibarbis
Fünther, Cat. Fish. Brit. Mus., vol.
2, p. 151, 1860 (China; Macao; —
Boulenger, Proc. Zool. Soc., London,
p. 239, 1889 (Muscat)).

and spots in head and upper front part of side and back. Spinous dorsal dusky olive, tipped with smoky yellow. Anal tinged bluish. Caudal, upper posterior part of back and most of soft dorsal yellowish.

278. Paluan Bay, Mindoro. December 11, 1908. Length 173 mm.

17868 and 17869. Polloc, Mindanao. May 22, 1908. Length 175 to 180 mm.

15926 and 22633. Port Banalacan. February 23, 1909. Length 205 to 210 mm.

11253 and 14711. Port Calton. December 15, 1908. Length 155 to 178 mm.

5760 and 5761. Port Capungpungan, Mindanao. May 10, 1908. Length 218 mm.

7766 and 14947. Port Ciego, Balabac Island. January 3, 1909. Length 168 to 208 mm.

9181 to 9183, 10364, 10513, 13823, 18694 to 18696.

Port Janelo, Luzon. July 13, 1908. Length 34 to 185 mm. 10 examples.

1716

Depth $2\frac{2}{3}$; head $3\frac{1}{5}$, width $1\frac{1}{8}$.
Snout $2\frac{1}{3}$ in head; eye 4, 2 in
snout, $1\frac{4}{5}$ in interorbital;
maxillary reaches $\frac{1}{2}$ in eye,
expansion 2 in eye, length $2\frac{3}{4}$
in head; mouth width 4; narrow
band of villiform teeth in each
jaw, none on palate; 2 fleshy
mandibular barbels each side,
front one larger, equals eye;
interorbital 3, deeply concave.
Supraorbital with broad antero-
marginal and posteromarginal
spines; postocular spines 2,
followed by larger suprascapular;
strong preorbital spine nearly
long as eye, with 2 small shorter
ones in front basally; preopercle
with strong spine, long as eye.
Gill rakers 3 + 8, short knobs,
barely $\frac{1}{4}$ of gill filaments, which
 $1\frac{2}{5}$ in eye.

Head with numerous, small, ¹⁷¹⁷
variable fleshy excrescences;
minute, short filaments on
dorsals and caudal, outer face
of pectoral and base of ventral.
Row of 14 fleshy points along
lateral line.

D. XIII, 9, third spine $1\frac{2}{3}$ in
head, fourth ray $1\frac{2}{5}$; A. II, 8,
fifth ray $1\frac{4}{5}$; Caudal $1\frac{1}{5}$,
~~rounded~~ behind; least depth
of caudal peduncle $3\frac{4}{5}$; ventral
1; pectoral $2\frac{4}{5}$ in fish without
caudal, rays I, 6, II + II.

Pale purplish-brown gener-
ally. White blotch from behind
third dorsal spine down opposite
pectoral. Another at front of
soft dorsal and down on trunk
above anal, followed by 3 below,
of which last largest. Under
surface of head, breast and

abdomen whitish. Vides of abdomen
finely spotted whitish. Caudal
dusky basally and terminally,
medianly white. Pectoral &
largely dusky marginally. Anal
and ventral neutral black,
margin of latter narrowly pale.
Arabia, India, China.

A. N. S. P., one example. Madras,
India. 1922. Madras Fisheries
Department. Length 78 mm.

Choridactylus natalensis (Gilchrist)

Choridactylodes natalensis Gilchrist,
Marine Investig. South Africa, vol.
2, p. 102, pl. 5, 1904 (type locality,
off Umhlanga River mouth, in 22 to
26 fathoms; of Cape Natal Light, in
22 fathoms). — Gilchrist and
Thompson, Ann. Durban Mus.,
vol. 1, pt. 4, p. 410, May 21, 1917.
(reference). — Fowler, Proc. Acad.
Nat. Sci. Philadelphia, vol. 77,
p. 254, 1925 (Durban Bay, Natal).

1425

20151. Malochin Harbor. December 18,
1908. Length 45 mm.

4701 and 19617. Mansalay, Mindoro. June 4,
1908. Length 38 to 170 mm. 7 examples.

9054. Masbate reef, Masbate. April 20, 1908.
Length 170 mm.

7245. Masinloc Bay, Zambales. March 23,
1908. Length 210 mm.

11207, 11208, 14694. Matnog Bay. May 31, 1909.
Length 115 to 155 mm.

15850. Nabutas Point, Samar. July 24, 1909.
Length 178 mm.

12761. North end of Endeavor Strait, Palawan.
December 22, 1908. 11 examples. Length 54 to 132 mm.

14291 [1151]. Pagapas Bay. February 20, 1909.
Length 173 mm. Large clavate dark brown
blotch from pectoral base across shoulder,
sides edged with blue stripes. Head brown,
except opercle and darker mark from chin
through eye. Other dark blue marks

Chori'dactylus natalensis Barnard,
Ann. South African Mus., vol. 21,
pt. 2, p. 922, pl. 33, fig. 4, Oct. 1927
(Natal, 20 to 30 fathoms). —
Fowler, Proc. Acad. Nat. Sci.
Philadelphia, vol. 86, p. 485, 1934
(Durban, Natal).

1424
7444. Guntao Island. December 20, 1908.
Length 220 mm.

8763 and 8764. Lahuy Island. June 11, 1909.
Length 243 to 260 mm.

9013 and 9014. Langa Point, Luzon.
June 24, 1909. Length 210 to 218 mm.

12808. Little Santa Cruz Island, Zamboanga.
May 26, 1908. Length 173 mm.

11132 and 19152^[5336]. Lode Bay, Westucado Island.
March 13, 1909. Length 168 to 210 mm.

22509 [509]. Maatan Island, Maatan Cove.
April 6, 1908. Length 148 mm. Amber bars
with more or less reddish shades, borders
slate blue. Bands on front of head similar.
Center of side with reddish amber wash.

5443 and 5445. Maculabo Island.
June 14, 1909. Length 180 to 195 mm.

12022, 12125, 12153, ~~20154~~. Malcochin Harbor,
Linapacan Island. December 19, 1908. Length 145 to
203 mm.

Depth 3; head $3\frac{1}{4}$, width $1\frac{1}{3}$.
Snout $2\frac{3}{4}$ in head from snout tip; eye $4\frac{1}{8}$, $1\frac{1}{2}$ in snout, $1\frac{2}{3}$ in interorbital; maxillary reaches pupil, expansion $1\frac{3}{5}$ in eye, length 3 in head from snout tip; interorbital 3 in head; transverse occipital depression deep; strong, broad, preopercle spine and one at preorbital. Gill rakers 3+7, low tubercles.

Skin finely papillose and papillae extend over fins; many short cutaneous tentacles on dorsal fins and 13 along lateral line, followed by one or more on caudal base; chin with flaps and tentacles.

D. XIV, 9, third spine $1\frac{3}{5}$ in head, third ray $1\frac{3}{5}$; A. II, 8, second spine $4\frac{1}{8}$, sixth ray $1\frac{1}{3}$; caudal $1\frac{1}{4}$, convex behind; pectoral

9, 3, long as head, ventral 1 in head. ¹⁷²⁷

Brown, mottled with dark gray to blackish. Caudal with blackish basal band and broad submarginal.

South Africa.

A. N. S. P., one example. South Africa. Aug. 11, 1920. Pickle Survey. H. W. Bell Marley. Length 87 mm.

A. N. S. P., one example. Natal. H. W. Bell Marley. Length 138 mm.

A. N. S. P., one example. Durban, Bay, Natal. H. W. Bell Marley. Length 140 mm.

A. N. S. P., 3 examples. Durban, Natal. 1932. H. W. Bell Marley. Length 140 to 145 mm. 3 examples.

Acanthospheus lewini
(Jordan and Seale)

Protopodops lewini Jordan
and Seale, Proc. U. S. Nat. Mus.,
vol. 29, p. 525, fig. 5, 1906
(type locality, Hong Kong).

Depth 3; head 3, width 2.

Snout 4 in head from snout tip; eye $4\frac{1}{4}$, $1\frac{1}{2}$ in snout, greatly exceeds interorbital; maxillary reaches opposite hind eye edge, expansion $1\frac{2}{3}$ in eye, length $2\frac{1}{4}$ in head from snout tip; villiform teeth in bands in jaws, and on vomer, none on palatines; interorbital 7, rather low, convex. Gill rakers 8: + 7, minutely spinescent clusters, barely $\frac{1}{3}$ of gill filaments, which $1\frac{1}{3}$ in eye.

Two long, subequal suborbital spines, lower at eye and upper extends upward $\frac{1}{2}$ of eye diameter beyond eye; 4 preopercular spines, uppermost longest or $1\frac{1}{4}$ times eye.

Skin smooth, scaleless, tubercles shown in Jordan and Seale's figure little evident and not interfering with general smoothness of entire body. Six well spaced, distinct, minute tubes form imperfect lateral line, axial below spinous dorsal.

D. III, IX, 8, origin of first fin over last fourth of eye, first spine $1\frac{1}{8}$ in total head length, third ray 3; A. I, 7, third ray $2\frac{1}{2}$; depth of caudal peduncle 4; caudal $1\frac{2}{5}$, convex behind; pectoral $1\frac{1}{5}$, rays 9; ventral rays I, 2, fin 2 in total head.

Light brown, marbled with darker. Iris gray. Each spine of second dorsal with short,

1727

dark, postapical streak. Soft dorsal with longitudinal black streak little above middle of fin. Soft anal similar. Caudal whitish, with narrow blackish basal bar and submarginal broad black band. Paired fins brownish. Pectoral with subapical blackish bar.

China, Philippines.

D. 5160. Tinabuta Island (N.), S. 72° W., 2.75 miles (N. lat. $5^{\circ} 12' 40''$, E. long. $119^{\circ} 55' 10''$), Sulu Archipelago, Tawi Tawi. In 12 fathoms. February 22, 1908. Length 21 mm.

A. S. N. M., No. 52081. Hong Kong: P. L. Jouy. Length 29 mm.

Genus Prosopodasys Cantor

1728

Prosopodasys Cantor, Journ. Asiatic
Soc. Bengal, vol. 18, pt. 1, p. 1026,
1849 (1850). (Type Apistus
trachinoides Cuvier, monotypic.)

Trichosomus (not in beetles)
Swainson, Nat. Hist. Animals, vol. 2,
pp. 61, 265, 1839. (Type Apistus
trachinoides Cuvier, designated by
Swain, Proc. Acad. Nat. Sci.
Philadelphia, p. 277, 1882.)

(Trichosoma in worms
not involved.)

1112

13729. Alimango Bay, Burias Island. March 5, 1909. Length 165 mm.

8362. Atulayan Island. June 18, 1909. Length 198 mm.

8120. Burias Island. March 5, 1909. Length 210 mm.

16017. Busin Harbor, Burias Island. April 22, 1908. Length 144 mm.

7858 and 7446. Pandaraman Island, Balabac. January 7, 1909. Length 122 to 193 mm.

12274. Chase Head, Endeavor Strait. December 22, 1908. Length 175 mm.

13933 and 13934. Cebu market. April 4, 1908. Length 155 mm.

5367 and 5372. Cebu market. April 5, 1908. Length 195 to 230 mm.

1729
Trichophasia Swainson, Nat.
Hist. Animals, vol. 2, p. 61, 1839.
(Type Apistus trachinoides
Cuvier.) (misprint for Tricho-
somus, not an intended new
name, inelegible.)

Paracentropogon Bleeker, Verh.
Kon. Akad. Wet., Amsterdam,
vol. 16, no. 2, p. 5, 1876. (Type
Apistus longispinis Cuvier,
orthotypic.)

Cottapistus Bleeker, op. cit., p.
6. (Type Apistus trachinoides
Cuvier, orthotypic.)

Daia Ogilby, Proc. Roy. Soc.
Queensland, vol. 18, no. 9, Sep. 8,
1903. (Type Centropogon indicus
Day.) (Daia Bleeker 1877
another genus of fishes, not
involved.)

Vespicula Jordan and Richardson, 130.
Philippine Journ. Sci., vol. , p.
52, 1910. (Type Prosopodasys
gorgorzae Jordan and Seale,
monotypic.)

materials show these differences appear to be the result of preservation.

It is quite likely that the imperfect Leanthurus smithi account may have been another attempt to describe this species. According to Günther it is light gray brown, minutely dotted and spotted with black. The gray fins are with a reddish line along dorsal and anal bases.

Scorpaena picta

(P 21913 (111)) Swina J. Reef
Dec. 31. 108

(21933 (105)) Matan J.
June 5. 09

21934 (100) " "

21935 (72) " "

Body oblong, compressed. Head obtuse, compressed, rather deep. Snout short, conic. Eye elevated and advanced in head. Maxillary but little inclined, extends below eye. Jaws subequal. Teeth in jaws, on vomer and palatines. Preorbital spines 2. Preopercle with 4 or 5 spines. Opercular spines 2. Branchiostegals 6. Body covered with minutely and closely adherent scales. Lateral line complete, axial. Dorsals continuous, not united with caudal, edges of membranes of spinous fin deeply notched; spines 12 to 14, anterior not extended or strongly divergent; rays 8 or 9. Anal spines 3, rays 4 to 6. Caudal rounded, with 10 branched rays. Pectoral rounded, rays not free. Ventral with spine and 4 or 5 rays.

Analysis of Species

c.² marbled brown; silvery blotch over lateral line; dark blotch between fifth to eighth dorsal spine; vespa.

a. Paracentropogon. Profile of head obtuse, not curved; dorsal begins over front edge of pupil; D. XII to XIV, 8 or 9.

b. I. XIV, 8; A. III, 4 or 5.

c. Frontal region brown; dark blotch above lateral line to middle of spinous dorsal base. longispinus.

c.² Frontal region white.

leucoproton.

b.² I. XIII, 8 or 9; A. III, 5 or 6; dark blotch on and below lateral line over middle of pectoral.

pleurostigma.

b.³ I. XV, 7; A. III, 4; dark blotch on back and base of spinous dorsal; 3 or 4 pale blotches on body.

zonatus.

b.⁴ I. XIV, 8; A. III, 7; round dark blotch behind head dark at first.

aeglefinus.

a.² Prosopodasyx. Profile of head pointed, straight; D. XIII to XVI, 4 to 8.

d.¹ Dorsal origin over front eye edge; D. XIV, 6, spines all short; A. III, 6. cynocephalus.

d.² Dorsal origin over front pupil edge; D. XIII or XIV, 7 to 9; A. III, 4 or 5. rubripinnis.

d.³ Dorsal origin over hind part of eye; D. XIV, 8; A. III, 5. indicus.

d.⁴ Dorsal origin over hind edge of orbit; D. XIII or XIV, 7 or 8.

e.¹

e.²

e.³

zollingeri.

cypho.

gorgorae.

d.⁵ Dorsal begins between orbit and hind preopercle edge; pectoral with bands. trachinoides.

d.⁶ Dorsal begins over hind preopercle edge; pectoral without bands. depressifrons.

Prosopodasys 1734
~~Paracentropogon~~ longispinus (Cuvier)

Lipistus longispinus Cuvier, Hist. nat.
Pois., vol. 4, p. 408, 1829 (type
locality, Amboyna). — Duoy and
Garnard, Voy. Astrolabe, Zool., p. 694,
pl. 11, fig. 4, 1835.

Platypterus longispinus Swainson, Nat.
Hist. Animals, vol. 3, p. 265, 1839
(in Cuvier).

Tetraroge longispinus Günther, Cat.
Fish. Brit. Mus., vol. 2, p. 134, 1860
(China, Amboyna, Bengal, Ceylon,
type of Lipistus multicolor); Rep. Voy.
Challenger, vol. 1, pt. 6, p. 52, 1880
(Philippines).

depth $2\frac{1}{8}$ to $2\frac{4}{5}$; head $3\frac{2}{3}$ to $4\frac{2}{3}$, width $1\frac{7}{8}$ to $2\frac{1}{8}$. Snout $1\frac{3}{5}$ to $1\frac{2}{3}$, eye $2\frac{2}{3}$ to 5, $1\frac{4}{5}$ to 3 in snout, 1 to $1\frac{2}{3}$ in interorbital; teeth 54 to 45 in jaws, very small and inconspicuous; maxillary $3\frac{7}{8}$ to $4\frac{4}{5}$ in head; interorbital $2\frac{7}{8}$ to 3, convexly elevated. Gill rakers 5+10, short, robust, conic tubercles.

Skin everywhere minutely asperous, nearly smooth or finely velvety to touch; in young more rough velvet.

D. VI, 26, I to 28, I, last spine $1\frac{3}{4}$ to 2 in head, tenth ray $1\frac{4}{5}$ to $2\frac{1}{2}$; A. II, 27, I or 28, I, second spine $2\frac{3}{4}$ to $3\frac{1}{2}$, tenth ray $1\frac{1}{2}$ to $2\frac{1}{2}$; caudal slightly emarginate in young, becoming broadly expanded and convex behind.

1735

Amblyapistus longispinus Day, Fishes
of India, pt. 1, p. 15, pl. 38, fig. 4,
1875 (China; India); Fauna of
British India, Fishes, vol. 2, p. 68,
1889.

Paracentropogon longispinus Bleeker,
Verh. Kon. Akad. Wet. Amsterdam,
vol. 16, no. 2, p. 67, 1876 (Singapore,
Celebes, Borneo, Buru; Ceram,
Amboina, Saparua, Banda); Atlas
Ichth. Ind. Néerl., vol. 9, pl. 2 (412),
fig. 4, 1877. — Jordan and Richardson,
Bull. Bur. Fisher., vol. 27, p. 280, 1907
(1908) (Cuyo); Philippine Journ. Sci.,
~~vol. 27~~, p. 52, 1910 (reference). — Weber,
Siboga Exped., vol. 65, Fische, p. 498, 1913
(Lombok; Gisser). — Herre, Fishes
Philippine Exped., p. 65, 1931 (1934)
(Penison).

9284. Basot Island, Pocket Bay¹¹⁵⁷.
June 11, 1909. Length 195 mm.

8951. Between Parone and Jesus
Points, Luzon. June 21, 1909. Length
453 mm.

14900. Biri Channel. June 2, 1909.
Length 110 mm.

7872 and 7873, 9819. Cagayan, Sulu
Island. January 8, 1909. Length 218 to
342 mm. Generally new olive green,
fading to drab's. Dorsal and anal
tips purplish, perhaps blue in life;
body of fin hyaline roman ochre,
crossed by greenish gray oblique
lines; on dorsal lines extend over
12 membranes; on anal almost parallel
with edge. Caudal body color, same.

Apistus fuscovirens Duoy and Gaimard
Cuvier, Hist. Nat. Poiss., Vol. 4, p. 400,
 1829 type locality, Amboina. — Duoy
 and Gaimard, Voy. Astrolabe, Zool.,
 p. 695, pl. 11, fig. 5, 1835.

Apistus fuscovirens Bleeker, Nat. Tijds.
Ned. Indie, vol. 3, p. 235, 1852
 Amboina, p. (237) 269 (Wahai, p.
 546 Amboina, p. 644 Banda, heira);
 vol. 4, p. 92, 1853 (Amboina); vol. 6,
 p. 90, 1854 (Banda, heira, p. 457
 Amboina; Act. Soc. Sci. Ind.
Neerl., vol. 1, no. 5, p. 5, 1856 (Amboina);
 vol. 2, no. 7, p. 4, 1857 (Amboina); Nat.
Tijds. Ned. Indie, vol. 20, p. 129,
 1859-60 Boni, p. 141 (Badjow, Boni);
Verlag. Kon. Akad. Wet. Amsterdam,
 vol. 12, p. 31, 1861 "Singapore".

1154
Aeromurus eringer Günther, l.c., p. 192.
Red Sea. (cf. Forsk.)

Larus punikar Thollière, Linn. Woodlark,
1857, p. 182. Woodlark Island.

Prionurus punikar (Montouzier)
Thollière, l.c. (name in synonymy).

Platypterus fusco-virens Swainson,
Nat. Hist. Animals, vol. 2, p. 265,
1839 (reference).

Centropogon fuscovirens Günther, Cat.
Fish. Brit. Mus., vol. 2, p. 130, 1860
(copied).

Apistus multicolor Richardson, Ez.
Lamarang, Fish, p. 3, pl. 4, figs. 3-4, 1848
type locality,

Apistus hypselopterus Bleeker, Nat. Tijds.
Ind. Indië, vol. 2, p. ⁽²²⁶⁵⁾238, 1851 (type
locality, Banda, Neira); Nat. Ver. Sci.
Ind. Neerl., vol. 2, no. 7, p. 4, 1857 (Amboina).

Gymnapistus hypselopterus Bleeker,
Verslag. Kon. Akad. Wet. Amsterdam,
vol. 16, p. 360, 1864 (Saparoua).

1153

Priodon amboinensis Bleeker, Nat. Tijds.
Ned. Indie, deel 4, 1853, p. 93 (Amboina);
deel 5, 1853, pp. 319, 320 (Amboina); deel
6, 1854, p. 459 (Amboina); deel 8, 1855, p.
393 (Amboina).

Naseus amboinensis Bleeker, l. c., deel 10,
1856, p. 360 (Ternate); deel 11, 1856, p. 95
(Banda), p. 385 (Kajeli, Buru); deel 13,
1857, p. 372 (Sangi), p. 478 (Karangbolong);
deel 15, 1858, p. 201 (Goram); deel 17, 1858-
59, p. 143 (Boleling, Bali); deel 18, 1859, p.
354 (Bawean). — Bleeker, Nat. Ver. Ind.
Nedl., vol. 1, no. 3, 1856, p. 31 (Manado);
vol. 1, no. 5, 1856, p. 6 (Amboina); deel 2,
no. 7, 1857, p. 5 (Amboina). — Bleeker,
Verslag. Akad. Wet. Amsterdam, deel 12,
1861, p. 31 (Singapore). — Weber, Siboga
Exped., band ⁵²65, 1913, p. 321 (Saleyer).

Aeroneurus aegyptius Gray, Cat. Fish.
Crown, vol. 2, 1854, p. 191. Red Sea.

1738

Depth $3\frac{1}{8}$ to $3\frac{1}{5}$; head $2\frac{2}{3}$ to $2\frac{3}{4}$, width $2\frac{1}{2}$, snout $3\frac{1}{2}$ to 4 in head from snout tip; eye $3\frac{7}{8}$ to 4, subequal with snout, or interorbital; maxillary reaches $\frac{2}{3}$ below eye, expansion $1\frac{4}{5}$ to 2 in eye, length $2\frac{4}{5}$ to 3 in head from snout tip; teeth in villiform bands in jaws, on vomer and palatines; interorbital nearly or quite equals eye. Pre-orbital spine 1 to $1\frac{2}{5}$ in eye; 5 preopercular spine, uppermost longest or 1 to $1\frac{1}{4}$ in eye.

Scales very minute rudiments, but distinct. Lateral line distinct, axial along side of body.

D. XIII to XV, 16 to 8, fin origin over middle of eye, third spine $1\frac{2}{5}$ to $1\frac{1}{2}$ in ^{total} head, first ray $1\frac{9}{10}$ to 2; A. III, 4 or 5, third spine $1\frac{7}{8}$ to $2\frac{1}{5}$, first ray $1\frac{3}{4}$ to $1\frac{7}{8}$; caudal

1739.
 $1\frac{1}{3}$ to $1\frac{2}{5}$, convex behind; least
depth of caudal peduncle 3 to $3\frac{1}{8}$;
pectoral $1\frac{1}{10}$ to $1\frac{1}{6}$, rays $\overline{\text{I}}$, 9 or 10;
ventral rays $\overline{\text{I}}$, 4, fin length $1\frac{1}{5}$
to $1\frac{1}{4}$ in total head length.

Brown, with dark blotch
on lateral line opposite fifth to
eighth dorsal rays spines, extend-
ing up on spinous dorsal basally.
Sometimes pale spot behind dark
blotch. Fins and body all more
or less with ill defined dark
spots.

India, Ceylon, Malaya, East
Indies, Philippines, China

6485 to 6487. Cebu. August 13, 1909.

Length 56 to 74 mm.

19 examples. Cebu. August 26, 1909.

Length 68 to 95 mm.

19679. Santa Cruz Island, Marian-
duque. April 24, 1908. Length 71 to
88 mm. Four examples. [609 to 611]

20638. Kowloon, China. Sep-
tember 26, 1908. Length 101 mm.

E. S. N. M., no. 32713. Indian
Archipelago. Royal Museum of Leiden.
Length 94 mm.

E. S. N. M., 5 examples. Iloilo.
March 23, 1929. Lieut. H. C. Kellers.
Length 22 to 38 mm.

E. S. N. M., one example. Iloilo.
April 19, 1929. Lieut. H. C. Kellers.
Length 26 mm.

E. S. N. M., six examples. Iloilo.
April 20, 1929. Lieut. H. C. Kellers.
Length 26 to 35 mm.

Protopogon
Paracentropogon vespa (Ogilby)

Paracentropogon vespa Ogilby, New
Fishes of the Queensland Coast, p.
116, Dec. 20, 1910 (type locality,
off Cape Capricorn, Queensland,
in 13 fathoms). — McCulloch,
Mem. Queensland Mus., vol. 7, p.
173, pl. 10, fig. 2, 1921.

— McCulloch, Austral. Mus. Mem.,
no. 5, pt. 3, p. 388, Nov. 28, 1929
(reference).

1145

cc. Frontal projecting protuberance placed below level of orbital center; snout moderately produced. annulatus

bb. Cyphomycter new subgenus! Type

' $\kappa\upsilon\phi\omicron\varsigma$, hump; $\mu\upsilon\kappa\tau\eta\rho$, nose or snout.

haso tuberosus Lacépède. A convex and compressed crest like hump above snout in the adult.

f. Brown, with black or blue dots or short vertical lines; fins blackish, verticals with white edges; caudal without filaments. tuberosus

ff. Deep brown, blue spots on head and upper and lower edges of body; middle of sides with numerous close set, vertical gray blue lines; caudal ends in 2 long filaments. coume

Paracentropogon vespa livingstonei
Whitley, Rec. Austral. Mus., vol. 19,
no. 1, p. 94, pl. 13, fig. 1, August 2,
1933 (type locality, Between
Broome and Cape Bossutt,
North-western Australia).

Prosopodasys
~~Luacentropogon~~ leucoprozon (Bleeker)

Apistus leucoprozon Bleeker, Act.
Soc. Sci. Ind. Neerl., vol. 1, no. 5, p. (5)
35, 1856 (type locality, Amboina);
vol. 2, no. 7, p. 4, 1857 (Amboina).

Centropogon leucoprozon Günther,
Cat. Fish. Brit. Mus., vol. 2, p. 130,
1860 (copied).

1159

Caudal like body color but paler,
broadly tipped white in fork.

Pectoral dusky, rays colorless.

Ventral whitish, with slight yellowish

wash and some dusky on inner rays.

[1843]. Cebu market. August 28, 1909. Length 134 mm.

6063 [433]. Dumaca River, Luzon.

February 25, 1909. Length 163 mm.

7290. Gigoro Point, Quinsuridan
Bay, Samar Island. July 28, 1909.

Length 205 mm.

6362 and 6366. Golo, Golo Island.

March 7, 1908. Length 138 to 140 mm.

14491. Langa Point, Luzon. June
24, 1909. Length 190 mm.

5974. Little Santa Cruz Island.

May 26, 1908. Length 250 mm.

Paracentropogon leucoprozon Bleeker,
Verh. Kon. Akad. Wet. Amsterdam,
vol. 16, no. 2, p. 69, pl. 5, fig. 5, 1876
(Amboina). — Weber, Siboga
Exped., vol. 65, Fische, p. 498, 1913
(N. lat. $1^{\circ}42.5'$ E. long. $130^{\circ}47.5'$, near
New Guinea, in 32 m.). — Fowler,
Mem. Bishop Mus., vol. 10, p. 296, 1928
(compiled).

1158

greenish white in fork; base probably yellowish in life. Fins with black spines, fading blue.

4925 and 4926. Casagoran, Malhon Island. July 27, 1909. Length 193 to 207 mm.

5353. Cebu market, Cebu Island. April 4, 1908. Length 200 mm.

5418. Cebu market. April 7, 1908. Length 540 mm. No horn. Upper surface slate gray, lower white. Upper surface of caudal peduncle slate black, lower surface white. Dorsals like body, but more or less mottled with dusky. Anal spines and rays tipped with white, fin washed with yellowish basally and somewhat dusky terminally.

1745

Depth $2\frac{2}{3}$; head $2\frac{1}{3}$. Snout
5 in head; eye $3\frac{1}{8}$, greatly
exceeds snout or interorbital;
maxillary reaches $\frac{1}{2}$ in eye,
expansion $\frac{1}{2}$, length 3 in head
from snout tip; bands of fine
teeth in jaws, on vomer and
palatines; interorbital width
 $\frac{1}{2}$ of eye. Preorbital spine
shorter than eye; 4 or 5 preopercu-
lar spines, uppermost longest or
 $\frac{3}{5}$ of eye; 2 divergent opercular
spines.

Scales minute, imbedded.
Lateral line complete, axial.

D. XIV, 8, fin origin over
middle of eye, third spine 2
in total head length, third ray
 $1\frac{7}{8}$; A. III, 5, third spine $2\frac{3}{4}$,
second ray $1\frac{3}{4}$; caudal $1\frac{1}{2}$;
depth of caudal peduncle 3;
pectoral $1\frac{2}{3}$, rays I, 9; ventral

rays I, 4, fin $1\frac{2}{3}$ in total head length.

Golden brown, with deeper spots and dots on sides. Iris rosy. Snout, front and edge of head before eye white. Cheek and lips variegated with whitish. Dorsal and anal golden brown, dotted or variegated with brown and rayed portions margined yellow. Caudal rosy, base and margin with broad dark band each, latter yellow narrowly. Paired fins variegated with purplish brown. Length 36 mm.

(Bleeker.)

East Indies.

1747

Protopodasys
~~Paracentropogon~~ pleurostigma (Weber)

(Paracentropogon pleurostigma Weber,
Siboga Exped., vol. 65, Fische, p. 499,
fig. 102, 1913 (type locality, S. lat.
 $1^{\circ}42.5'$, E. long. $130^{\circ}47.5'$, in 32 m.,
near New Guinea, — Fowler,
Mem. Bishop Mus., vol. 10, p. 296,
1928 (compiled).

Depth $2\frac{1}{3}$; head $2\frac{2}{5}$, Snout $3\frac{4}{5}$
in head ~~from~~; eye $2\frac{1}{5}$, greater
than snout; maxillary reaches $\frac{1}{8}$
in eye, expansion $1\frac{3}{4}$ in eye, length
 $2\frac{1}{5}$ in head; fin teeth in jaws and
on vomer, palatine teeth not visible.
Two preorbital spines, lower
larger or $1\frac{1}{2}$ in eye; postorbital
spine, 1, with small spine at
base of maxillary; opercle
with one spine.

1152

Larus olivaceus Valenciennes, Hist. Nat.

Poiss., vol. 10, 1835, n. ²⁸⁸~~212~~, Tahiti. —

Günther, Cat. Fish. Brit. Mus., vol. 3, 1861, p.

352 (type; Philippines). — Elera, Cat.

Fauna Filip., vol. 1, 1895, p. 533 (Luzon,
Manilla).

Chaetodon olivaceus (Solander) Valenciennes,

Hist. Nat. Poiss., vol. 10, 1835, n. ²⁸⁸~~212~~ (name
in synonymy).

Larus longicornis (Cuvier) Guérin, Iconog.

Poiss., 1830-44, plate 35, fig. 3. Mauritius.

Harporus monoceros (Forster) Lichtenstein,

Descrip. Animal., 1844, p. 219. Tahiti;

Babuyan near Waighaw.

Keris amboinensis Bleeker, Nat. Tijds. Ned.

Indie, deel 3, 1852, p. (546) 272, Ambonia;

Wahai. — Meyer, Nim. Soc. Espm. Hist. Nat.

Madrid, vol. 14, 1885, p. 24 (Tabukan, Sangi;

Ternate). — Beaufort, Bijd. Dierk.

Amsterdam, deel 19, 1913, p. 125 (Ambonia).

Lateral line with 22 tubes.

Scales absent from head, upper part of back and axillary region; very small and imbedded on body. Lateral line complete, axial.

D. XIII, 8 or 9, origin little before front edge of pupil, third spine $1\frac{4}{5}$ in head, third ray $1\frac{3}{5}$; A. III, 5 or 6, third spine $1\frac{3}{4}$, first ray $1\frac{2}{3}$; caudal $1\frac{1}{5}$, convex behind; depth of caudal peduncle $3\frac{3}{4}$; pectoral $1\frac{1}{4}$, rays 14; ventral rays I, 4, fin $1\frac{4}{5}$ in head.

Yellowish brown with dark spots and blotches. Large round dark blotch behind opercle, with greater part below lateral line. Fins with rows of dark spots, broader on pectoral. Caudal with dark basal band and hind half with more regular cross bars. Length 48mm. (Weber.)
East Indies.

Prosopodasys
~~Paracentropogon~~ zonatus Weber

Prosopodasys zonatus Weber,
Siboga Exped., vol. 65, Fische, p.
 502, pl. 10, fig. 8, 1913 (type
 locality, Tarasa Island; North
 Borneo, Sulu Archipelago).

Depth $3\frac{1}{8}$ to $3\frac{3}{4}$; head $3\frac{1}{3}$. Snout
 $3\frac{4}{5}$ in head; eye $2\frac{3}{4}$, greatly
 exceeds snout; maxillary?;
 vomerine and palatine teeth
 present; Very small preorbital
 and preopercular spines, only long
 as $\frac{1}{3}$ of eye; opercle with 2 spines.

Tubes 15 to 19 in lateral line.
 Small, round scales imbedded in
 skin.

D. XV, 7, fin origin close
 before front edge of pupil, third

1143

= Chaetodon lituratus Forskål, monotypic.

Body oblong, compressed. Caudal peduncle with 2 large, firm, bony, beeled plates, absent in young. Head in adult with prominent forehead, developing very long, bony horn above eyes, absent in young. Teeth small, uniserial, slightly compressed incisors with edges usually serrated. Dorsal spines 5 or 6. Anal spines 2, first small spine absent. Ventral incomplete, with spine and 3 rays.

Indo-Pacific. Mostly dark in coloration and moderate or large in size. Noteworthy is the frontal horn and large ornate spines on the caudal peduncle.

1750

spine $1\frac{2}{5}$ in head, soft dorsal height; A. III, 4, third spine $1\frac{9}{10}$, soft fin height $1\frac{7}{8}$; caudal $1\frac{1}{2}$, convex behind; least depth $2\frac{1}{2}$; pectoral 1, rays II, 9; ventral rays I, 4, fin $1\frac{1}{5}$ in head.

Rose colored, ~~marbled~~ ^{blotched} with brown. Below 10 dorsal spines to lateral line indistinct whitish blotch and lower half of last rays whitish and caudal peduncle bordered brownish. Belly and head paler. Fins blotched brown on light ground color.

Male with whitish blotch between second and third dorsal spines and lateral line and spots little less bright at lower half of 4 last dorsal spines. Dark blotch between fifth and eighth dorsal spines. Length 52 mm. (Weber.)

East Indies.

Prosopodasys
~~Paracentropogon~~ aeglefinus (Weber)

1751

Paracentropogon aeglefinus Weber,

Siboga Exped., vol. 65, Fische, p. 500,
pl. VI, fig. 8, 1913 (^{type locality,} Halmahera Sea;
Timor Sea; Lobetobi Strait, Savu
Sea; Saleh Bay, Sumbawa; 95 to
274 meters).

blackish medially, margin white.
Anal mottled dull green basally,
blackish line submarginal and
pure white marginal line. Caudal
dull greenish brown, hind edge
narrowly white. Pectoral pale green,
free edge whitish. Ventral rays
green.

10370. Subig, Lubang Island.

July 14, 1908. Length 200 mm.

→ 6481 and 6482. Tilig, Lubang
Island. July 15, 1908. Length 212 to
334 mm.

7661. Ulugan Bay, Palawan Island.
December 28, 1908. Length 533 mm.

6930 and 6979. West coast of Sabatan
Island. November 8, 1908. Length 480 to 605 mm.

1752

Depth $3\frac{1}{4}$; head $2\frac{1}{2}$. Snout $3\frac{7}{8}$
in head from snout tip; eye $3\frac{1}{4}$,
greater than snout; maxillary
reaches $\frac{1}{2}$ in eye, expansion $1\frac{3}{4}$,
length $2\frac{1}{10}$ in head from snout
tip; fine teeth in jaws, on vomer
and palatines. Preorbital spine
 $1\frac{3}{4}$ in eye; 6 preopercular spines,
uppermost longest or $1\frac{2}{3}$ in eye.

Scales 130 to 140 in lateral
series; tubes 22 in lateral line.

D. XIV, 8, third spine $2\frac{1}{10}$ in
head, fourth ray $1\frac{4}{5}$; A. III, 7,
third spine $3\frac{4}{5}$, fifth ray $2\frac{1}{4}$;
caudal $1\frac{1}{4}$; rounded; least depth
of caudal peduncle $4\frac{1}{2}$; pectoral
 $1\frac{1}{3}$, rays 10, V; ventral I, 5,
fin $1\frac{3}{5}$ in total head length.

Head and body bluish or
yellowish gray, little paler below.
Behind opercle and below and

behind origin of lateral line
rounded dark blotch of
equally blue black color as fins.
Length 150 mm. (Weber.)
East Indies.

1754

Protopodasys
Paracentropogon cynocephalus (Weber)

Paracentropogon cynocephalus Weber,
Siboga Exped., vol. 65, ^{Fische,} p. 501, fig. 103,
1913. (^{type locality,} Mollo Strait, ~~and~~ Flores Sea; in
50 to 90 meters).

Depth 3; head $2\frac{2}{3}$. Snout $3\frac{1}{8}$
in head from snout tip; eye $3\frac{3}{4}$,
 $1\frac{1}{5}$ in snout; maxillary reaches
opposite hind eye edge, expansion
2 in eye, length $1\frac{4}{5}$ in head
from snout tip; ^{fine teeth in jaws and on vomer.} Preorbital spine
less than eye; preopercle with
5 short spines; opercle unarmed.

Scales rudimentary. Lateral
line with 21 pores.

D. XIV, 6, origin opposite front
eye edge, third spine $2\frac{1}{6}$ in
total head length, first ray 2;

1161

6379 and 6380, 18872. Port Jumbelo,
Luzon. July 13, 1908. Length 175 to
320 mm.

7091 to 7095. Port San Pio Quinto,
Carriguin Island. November 11, 1908.
Length 225 to 595 mm.

7322. Sablayan Bay, Mindoro Island.
December 12, 1908. Length 520 mm.

4889. Siassi, Zolo. February 17, 1908.
Length 285 mm. Called "pugut."
Above dingy olive, lower half of body
dirty white. Narrow black line from
above upper angle of gill slit opposite
eye to behind pectoral base. Iris
black near pupil, white terminally
and upper section black. Teeth
orange. Dorsals dull green at bases,

1755
A. III, 6 or 7, third spine $2\frac{2}{3}$,
first ray $1\frac{7}{8}$; caudal $1\frac{1}{5}$,
convex behind; depth of
caudal peduncle $4\frac{1}{3}$; pectoral
 $1\frac{1}{3}$, rays 14; ventral rays $\overline{\text{I}}$, 4,
fin $1\frac{9}{10}$ in total head length.

Pale yellowish, gray shades
with pale brown dots, absent
below, dots in clusters behind
eye, along lateral line and
on rayed vertical fins.

Length 52 mm.

(Weber.)

East Indies.

~~Paracentropogon~~ rubripinnis (Schlegel)

Apistus rubripinnis Schlegel, Fauna Japonica, Poiss., pts. 2-4, p. 49, pl. 22, fig. 2, 1843 (type locality, Nagasaki, Japan). — Bleeker, Verh. Batavia. Genoot. (Nal. Ichth. Japan), vol. 25, p. 12, 1853 (reference); Dut. Soc. Sci. Ind. Neerl., vol. 5, no. 9, p. (2) 5, 1858. 59 (Nagasaki).

Tetraroge rubripinnis Günther, Cat. Fish. Brit. Mus., vol. 2, p. 133, 1860 (copied). — Ishikawa and Matsuura, Cat. Fish. Mus. Tokyo, p. 50, 1897.

Gymnapistus rubripinnis Jordan and Snyder, Dennot. Zool. Japon., vol. 3, p. 100, 1901 (reference).

1157
p. 244 (China?, Hawaii). — Bleeker,
Verh. Batav. Genoot. (hal. Ich. Japan),
deel 25, 1853, p. 15. — Bleeker, Nat. Tijds.
Ned. Indië, deel 12, 1856, p. (230) 238
(Batu Island). — Guichenot, Notes J.
Reunion, tome 2, 1862, p. 27. — Bleeker,
Ned. Tijds. Dierk., deel 1, 1863, p. 249
(Flores Island).

Keris anginosus Valenciennes, Hist. Nat.
Poiss., vol. 10, 1835, p. ³⁰⁴~~225~~²⁹⁵, plate 295. no
locality.

Priodon anginosus Bleeker, Nat. Tijds. Ned.
Indië, deel 6, 1854, p. (457) 492 (Amboina).

Hasenus anginosus Bleeker, Act. Soc. Sci.
Ind. Néerl., vol. 1, no. 3, 1856, p. 4 (Manado).
— Bleeker, Ned. Tijds. Dierk., deel 1, 1863,
p. 264 (Atapupu, Timor).

Hasenus ingiosus Bleeker, Nat. Tijds. Ned.
Indië, deel 2, 1856, p. 487 (Ceram).

Paracentropogon rubripinnis Jordan
and Starks, Proc. U. S. Nat. Mus., vol.
27, p. 167, fig. 19, 1904 (Tokyo, Fomo,
Misaki, Kobe, Wakanoura).

Tetraroge longispinis var. nuda Günther,
Rep. Voy. Challenger, vol. 1, pt. 6, p. 66,
1880 (type locality, Kobe, Japan).

Tetraroge longispinis (not Cuvier)
Steindachner and Döderlein, Denks.
Akad. Wiss. Wien, math.-naturw. Kl.,
vol. 49, pt. 1, p. 196, 1885 (Tokyo Bay,
Tagawa, Tango, Japan Sea).
Jordan and Snyder, Unnot. Zool.
Japan., vol. 3, p. 100, 1901 (reference).
Paracentropogon longispinis Steindachner,
Ann. k. k. Naturh. Hofm. Wien, vol.
11, p. 203, 1896 (Kobe, Hiogo).

1150

Seale, Bull. Bur. Fisher., vol. 26, 1906
(1907), p. 98 (San Fabian).

Monoceros unicornis Snyder, Proc. U.S.
Nat. Mus., vol. 42, 1912, p. 510 (Okinawa).
Naso unicornis Fowler, Copeia, no. 58,
June 18, 1918, p. 64 (Philippines).

Monoceros biaculeatus Schneider, Syst. Ichth.
Bloch, 1801, p. 180. Arabia.

Monoceros raii Schneider, l.c., p. 181. Locality?
(on Willoughby).

Naso fronticornis Racepelle, Hist. Nat. Poiss.,
tome 3, 1802, pp. 104, 105, plate 7, fig. 2. Red
Sea.

Nasus fronticornis Valenciennes, Hist. Nat.
Poiss., vol. 10, 1835, p. 259 (Mauritius,
Waigiu, Guana, Hawaii, Red Sea, Tahiti).

— Valenciennes, Regne Animal Cuvier, Poiss.,
1839, plate 72, fig. 2, — Schlegel, Faune

Jap. Poiss., ^{dec. 7-9, 1846,} p. 129, plate 69 (Nagasaki).

— Richardson, Ichth. Chin. Japan, 1846, p. 8

Depth $2 \frac{1}{8}$ to $3 \frac{1}{5}$; head $2 \frac{2}{5}$ to $2 \frac{3}{5}$, width $1 \frac{3}{4}$ to $1 \frac{7}{8}$. Snout $3 \frac{1}{2}$ to $4 \frac{1}{5}$ in head; eye $3 \frac{1}{2}$ to $4 \frac{2}{5}$, subequal with snout, greatly exceeds interorbital; orbit $3 \frac{1}{2}$ to $3 \frac{4}{5}$ in head; maxillary reaches $\frac{1}{2}$ in eye, expansion $1 \frac{4}{5}$ to 2, length $2 \frac{1}{3}$ to $2 \frac{3}{4}$ in head; vomerine patch of teeth much larger than palatine patches; interorbital $5 \frac{1}{2}$ to 6, low, depressed or nearly level; upper suborbital spine long as eye, entire; preopercular spine $1 \frac{1}{2}$ to $1 \frac{3}{5}$ in eye. Gill rakers 3 or 4 + 8, low rounded tubercles, $\frac{1}{3}$ of gill filaments which $1 \frac{3}{4}$ in eye.

Skin naked, or with small, embedded, nonimbricate rounded scales on tail or posteriorly on trunk and tail. Lateral line

1759

of simple tubes, little high, axial and complete to middle of caudal base.

D. XIII or XIV, 7 to 9, first spine when depressed, reaches $\frac{1}{3}$ to $\frac{2}{5}$ in space to depressed second spine, third spine $1\frac{1}{4}$ to $1\frac{1}{3}$ in head; membranes of spinous dorsal each deeply notched; third dorsal ray 2 to $2\frac{1}{2}$; A. III, 4 or 5, third spine $2\frac{1}{5}$ to $2\frac{2}{5}$, first ray 2 to $2\frac{1}{8}$; caudal $1\frac{1}{4}$ to $1\frac{1}{3}$; least depth of caudal peduncle $3\frac{7}{8}$ to $4\frac{1}{8}$; pectoral $1\frac{1}{8}$ to $1\frac{1}{5}$, rays I, 11; ventral I, 4, last joined to belly by broad membrane, length $1\frac{2}{5}$ to $1\frac{2}{3}$ in head.

Brown, paler to whitish below. Back and sides mottled and specked with dark brown, sometimes forming irregular or imperfect transverse bars;

1760

usually one across interorbital,
one at nape sometimes one below
pectoral, one below front of
soft dorsal, one below hind
part of soft dorsal and on
caudal peduncle. Frequently
dark bars radiate from eye;
one down anteriorly crosses
middle of maxillary, one down
across cheek behind maxillary
and one to preopercle angle.
Pale or whitish spot less than
eye above lateral line and
posterior part of depressed pectoral.
Spinous dorsal marbled with
dark brown or parallel vertical
dark bars; black blotch large as
orbit usually from fourth to
sixth spines basally on fin;
soft dorsal, anal and pectoral
finely speckled with darker to
form dark transverse bands or

bars, 6 or 7 on caudal. Pectoral ¹⁷⁶¹
whitish, dusted little brown
terminally.

Japan. Distinguished from
Paracentropogon longispinus by its
much shorter first dorsal spine,
never reaching half way to end
of second spine. Very variable,
no two specimens alike and
formaline materials of different
preparation greatly different
in shading as well as pattern.

U. S. N. M., no. 51238. Nagasaki.

D. S. Jordan and J. O. Snyder.
Length 50 to 64 mm. Five examples.

U. S. N. M., no. 51269. Wakunoura.

D. S. Jordan and J. O. Snyder.
Length 72 to 81 mm. Six examples.

U. S. N. M., no. 51320. Misaki.

D. S. Jordan and J. O. Snyder.
Length 40 to 76 mm. Eighteen
examples.

U. S. N. M., No. 45296. Fusan, ¹⁷⁶²
Korea. P. L. Jouy. Length 55 mm.

U. S. N. M., No. 51512. Corea.
Dale and P. L. Jouy. Length 85
mm. dorsal spines broken.

U. S. N. M., No. 57533. Japan.
P. L. Jouy. Length 38 to 57 mm.
Two examples.

U. S. N. M., No. 59709. Yamagawa.
H. M. Smith. June 16, . Length
51 to 63 mm. Three examples.

U. S. N. M., No. 71690. Shimizu.
J. O. Snyder and M. Sindo.
Bureau of Fisheries. Length 69 mm.

U. S. N. M., No. 72096. Misaki,
Sagami. Albatross Collection 1896.
Length 31 to 85 mm. 58 examples.

U. S. N. M., No. 73844. Nagasaki.
S. F. Morse. Length 60 mm.

U. S. N. M., No. 73858. Kobe.
P. L. Jouy. Length 35 to 56 mm.
Seven examples.

U. S. N. M., No. 76256. Japan. ¹⁷⁶³
1878. E. S. Morse. Length 50 mm.

U. S. N. M., No. 76535. Alabama,
Japan. May 1914. Dr. Fred Babler.
Length 60 mm.

1764

Prosopodasys
~~Paracentropogon~~ indicus (Day)

Centropogon indicus Day, Fishes of
India, pt. 1, p. 155, pl. 38, fig. 2,
1875 (^{type locality,} Madras); Fauna of British
India, Fishes, vol. 2, p. 65, fig. 25,
1889 (copied).

Prosopodasys indicus Jordan and
Richardson, Bull. Bur. Fisher., vol.
27, p. 280, 1907 (1908) (Cuyo);
Philippine Journ. Sci., p. 52, 1910
(reference).

8513. Inakesi Island, Palawan. ¹¹⁶⁰

April 5, 1909. Length 315 mm.

9079, 9083 and 9084. Malhon Island.

July 27, 1909. Length 263 to 290 mm.

6162. Mansalay, Mindoro Island.

June 4, 1908. Length 520 mm.

5446. Mantacao Island, Bohol.

April 8, 1908. Length 518 mm.

14319 and 15517. Palay Bay vicinity, Luzon. June 16, 1909. Length 150 to 195 mm.

15523. Pandanan Island. March 24, 1909. Length 50 to 194 mm. Five examples, small ones with pale ring around caudal peduncle.

5898 and 5899. Polloc, Mindanao.

May 22, 1908. Length 570 to 573 mm.

1765

Depth 3; head $2\frac{4}{7}$, Snout $4\frac{3}{4}$
in head from snout tip; eye $3\frac{1}{5}$,
greater than snout, or interorbital;
maxillary reaches $\frac{2}{5}$ in eye,
length 30 in head from snout tip;
teeth villiform in jaws, on vomer
and palatines; interorbital $\frac{2}{3}$ of
eye. Longer preorbital spine
 $1\frac{1}{5}$ times eye; preopercular spine
 $1\frac{2}{5}$ in eye, and 5 more blunt
over along its angle and lower edge.
Scales distinct, none on head,
80 in lateral series.

D. XIV, 8, origin over hind pupil
edge, third spine $1\frac{4}{5}$ in total
head length, first ray $2\frac{1}{10}$; A.
III, 5, third spine 20, first ray 2;
caudal $1\frac{3}{4}$, little convex behind;
depth of caudal peduncle 3;
pectoral $1\frac{1}{5}$, rays 10; ventral
rays I, 4, fin $1\frac{3}{4}$ in total head
length.

1766

Pinkish, with irregular markings
over head. Cheek barred with
pinkish and brown vertical bands.
Three or 4 badly defined vertical
bars on body, last over base of
caudal. Vertical brown band
over last third of caudal fin,
and posterior third of anal banded.
Ventral nearly black in its last
half. Length 163 mm. (Day.)
India.

Prosopodasys
~~Paracentropogon~~ gollingeri (Bleeker)

Apistus gollingeri Bleeker, Journ.
 Indian Archip., vol. 2, p. (633) 636,
 1848 (type locality, Bima, Sumbawa);
 Verh. Batavia. Genoot. (Perc.), vol.
 22, p. 8, 1849 (Bima); Nat. Tijds.
 ned. Indie, vol. 1, p. 26, 1850
 (diagnosis in key).

Prosopodasys gollingeri Günther,
 Cat. Fish. Brit. Mus., vol. 2, p. 141,
 1860 (copied). — Bleeker, Verh.
 Kon. Akad. Wet. Amsterdam, vol.
 16, no. 2, p. 77, pl. 5, fig. 1, 1876
 (Sumbawa).

1144

Analysis of the species.

a. Forehead with elongated conic horn like protuberance, or crest like hump above snout in adult.

b. naso. Forehead with conic rostral protuberance.

c. Snout long or produced below rostral protuberance; caudal and pectoral fins uniform.

d. Frontal horn with axis on level with upper half of orbit; dorsal spines about half of head. unicornis

dd. Frontal horn with axis passing through orbit; dorsal spines about $\frac{1}{4}$ of head. brachycentron

cc. Snout moderate or very short below rostral protuberance; hind caudal and pectoral edges whitish.

e. Frontal horn passing through center of orbit; snout short. brevirostris

Depth 3; head $2\frac{1}{2}$. Snout $3\frac{4}{5}$ in head from snout tip; eye 4, $1\frac{1}{10}$ in snout, greater than interorbital; maxillary reaches $\frac{1}{2}$ in eye, expansion $1\frac{1}{5}$ in eye, length $2\frac{1}{8}$ in head from snout tip; teeth villiform, in bands on jaws, on vomer and palatines; interorbital 2 in eye, convex. Suborbital spine $1\frac{1}{2}$ in eye; preopercular spine $1\frac{1}{3}$, with 3 more short ones below.

Scales rudimentary. Lateral line little high, along upper side of body.

D. XIII or XIV, 7 or 8, origin over middle of eye, second spine $2\frac{1}{10}$ in total length of head, first ray 2; A. III, 5 or 6, third spine $3\frac{1}{10}$, first ray 3; caudal $1\frac{2}{5}$, convex behind; least depth of caudal peduncle $2\frac{7}{8}$; pectoral $1\frac{1}{5}$, rays I, 11; ventral rays I, 5,

fin $1\frac{2}{3}$ in total head length. 1769

Body and fins brownish
variegated and clouded with
deeper shades. Length 50 mm.
(Bleeker.)

East Indies.

Prosopodasys gorgorzal Jordan
and Seale

Prosopodasys gorgorzal Jordan and
Seale, Proc. U. S. Nat. Mus., vol.
28, p. 792, fig. 11, 1906 (type locality,
Negros).

Vespicula gorgorzal Jordan and
Richardson, Philippine Journ. Sci., vol.
1, p. 52, 1910 (reference).

Acanthurus desjardini Bennett, Proc. Zool.
Soc. London, pt. 3, 1835, p. 207. Mauritius.

— Günther, Cat. Fish. Brit. Mus., vol. 3,
1861, p. 344 (type). — Playfair, Fishes of
Zanzibar, 1866, p. 57 (Zanzibar).

Acanthurus maristarum Thiollière, Fauna
Woodlark, 1857, p. 180. Woodlark Island.

Acanthurus viaged (Montouzier) Thiollière,
l.c. (name in synonymy).

Lasius strigatus De Vis, Proc. Linn. Soc. New
South Wales, vol. 9, 1885, p. 539. Queensland
Coast.

1775

Depth $2\frac{3}{5}$ to $2\frac{7}{8}$; head $2\frac{2}{5}$ to $2\frac{3}{4}$,
width $1\frac{2}{3}$ to 2. Snout 4 to $4\frac{1}{4}$
in head from snout tip; eye $4\frac{1}{4}$
to 5, little longer than snout,
greater than interorbital; orbit
 $3\frac{3}{4}$ to 4 in head from snout tip;
maxillary reaches $\frac{1}{2}$ in eye,
expansion 1 to $1\frac{1}{3}$ in eye, length
2 to $2\frac{1}{10}$ in head from snout tip;
patch of finely villiform teeth on
vomer and each palatine;
interorbital $5\frac{7}{8}$ to 7, moderately
low, depressed or nearly level;
preopercle and suborbital spines
subequal or $\frac{1}{2}$ of orbit; 4 pre-
opercle spines. Gill rakers $6 + 1\frac{1}{2}$,
short lanceolate points, $\frac{1}{2}$ -gill
filaments or eye.

Body covered with minute,
close set, firmly adherent, non-
imbricate scales. Lateral line high,

axil incomplete posteriorly; tubes.
21, long, simple, slender.

D. III, 10, 7, insertion of
first spine at first fourth in
postocular space or over hind
orbital edge, length $\frac{3}{5}$ to $\frac{2}{3}$
in space to end of second
depressed spine, which $2\frac{1}{10}$ to
 $2\frac{1}{8}$ in total head length,
third ray 2 to $2\frac{2}{5}$; A. III, 5 ~~or~~ 6,
third spine $2\frac{1}{5}$ to $2\frac{2}{5}$; caudal
 $1\frac{1}{3}$ to $1\frac{2}{5}$, rounded behind;
least depth of caudal peduncle
 $3\frac{2}{5}$ to 4; pectoral $1\frac{1}{10}$ to $1\frac{1}{5}$,
rays I, 10; ventral rays I, 5, fin
 $1\frac{1}{2}$ in total head length.

Brown, paler to whitish on
under surface of head and belly.
Head speckled or marbled little
darker and with whitish, latter
tints forming a pale band down

1777
from front of eye across maxillary
expansion and another from
hind eye edge down to angle of
preopercle ridge. Body obscurely
mottled with similar tints. Dorsals brown, with wavy
vertical lines or bars, also anal.
On dorsal, from third to sixth
spines dark brown blotch, in-
cluding most of that section of
fin; on last dorsal spines large
dark brown blotch, also another
on middle of soft dorsal. Anal
whitish, with 3 dark brown
blotches, though last with some
pale specks; also several dark,
wavy, transverse lines in pale
area before last dark blotch.
Caudal largely whitish, terminally
blackish brown; dark brown
basal bar; middle of fin
with finely wavy dark lines

transversely and parallel. Pectoral brownish, terminally blackish brown, most of fin with transverse dark bars. Ventral dark or blackish brown terminally; large brown blotch basally and outer whitish section of fin beyond its middle with transverse brown lines.

Philippines. ~~Originally~~
~~described from a specimen but~~
~~30 mm. long, no. 52054 U. S. N. M.~~

1779
Two examples. Below mouth of
Mindanao River, Cotabato, Mind-
anao. May 29, 1909. Length 52 to
59 mm. These two examples
vary a little in the notch after
the third dorsal spine, which is
very slight in one and deep in
the other.

One example. Malampaya River,
Palawan. December 26, 1908.

Length 31 mm.

20349. Kato River. June 17, 1909.

Length 47 mm.

One example. D. 5345.

December 26, 1908. Length 31 mm.

Accords closely with Jordan and
Seale's figure.

One example. [366.] Sandakan
Bay, Borneo. March 2, 1908. Length
61 mm.

5261, 5262. Sandakan Bay, ¹⁷⁸⁰
March 21, 1908. Length 47 and 48
mm.

U. S. N. M., No. 52054. Regras.
Bashford Dean. Length 30 mm.
Type -

1781

Prosopodus
~~Lamprologus~~ trachinoides (Cuvier)

Apestus trachinoides Cuvier, Hist.
Nat. Poiss., vol. 4, p. 401, pl. 92, fig. 1,
1829 (type locality, Java). —

[Bleeker, Verh. Batavia. Genoot.
(Perc.), vol. 22, p. 8, 1849 (Batavia,
Cheribon, Surabaya, Kammal, Java;
(Madura), vol. 22, p. 4, 1849 Kammal;
Nat. Tijds. Ned. Indie, vol. 1, p. 26,
1850 (diagnosis in key); vol. 10,
p. 346, 1856 (Rio, Bintang); vol.
16, p. 26, 1858 (Tikoe).]

[— Richardson, Voy. Samarang, Fish,
p. 1, pl. 3, figs. 3-5, 1848] (

blackish bands; hind caudal and
pectoral edges pale; depth $2\frac{1}{2}$ to $2\frac{2}{3}$;
eye $3\frac{3}{4}$ to $4\frac{4}{5}$ in head. Tapinosoma
gg. luxivus. Tail with a single bubble
each side; teeth very small, tapering,
not serrated; dorsal and anal brown,
with several whitish oblique longitudinal
bands, fin edges also narrowly whitish.
Thynnoides

Trichosomus trachinoides Swainson,
Nat. Hist. Animals, vol. 2, p. 265,
1839 (on Cuvier).

Prosopodasys trachinoides Cantor,
Journ. Asiatic Soc. Bengal, vol. 18,
pt. 2, p. 1026, 1849 (1850) (Pinang;
Singapore). — Günther, Cat.
Fish. Brit. Mus., vol. 2, p. 139, 1860
(Java). — Bleeker, Verh. Kon.
Akad. Wet. Amsterdam, vol. 16,
no. 2, p. 78, 1876 (Singapore, Pinang,
Bintang, Java, Madura).

1146
aa. Head without horn or hump at any age.

g. Callicanthus. Tail with 2 bucklers each side.

h. Dorsal and anal each with 26 to 29 rays.

i. Yellow band from eye and nostrils arches down till behind mouth angle; dorsal dark, with white margin; caudal bucklers orange; caudal ends in 2 long filaments. lituratus

ii. No yellow band on side of snout; ^{caudal} bucklers dull; caudal without filaments.

j. Depth $1\frac{7}{8}$ to 3; eye $2\frac{2}{3}$ to $3\frac{3}{4}$ in head.

hexacanthus

jj. Depth 3 to $3\frac{2}{3}$; eye 4 to $5\frac{3}{4}$ in head.

hh. Dorsal and anal each with ^{vomer} 23 to 25 rays; soft dorsal and anal narrowly white edged and each with 3 longitudinal

Scales minute, rudimentary.

D. III, XII, 4, first 3 spines
entirely separated from others;
A. III, 3; third spine longest;
pectoral reaches origin of
anal fin. Reddish brown,
finely speckled with brown.
(Günther.)

Malaya, East Indies.

Procopodasys depressifrons (Richardson)

Apistus depressifrons Richardson, Voy.
Samarang, Fish, p. 5, pl. 3, figs. 1-2,
 1848 (type locality, "Sea of Japan").
 — Bleeker, Verh. Batavia. Genoot.
 (Nat. Ichth. Japan), vol. 25, p. 12,
 1853 (reference; Nat. Tijds. Ned.
 Indie, vol. 9, p. 259, 1855 (Siboga);
 vol. 11, p. 385, 1856 (Kajeli, Borneo);
 vol. 12, p. 213, 1856 (Lias); Act.
 Soc. Sci. Ind. Neerl., vol. 3, no. 9,
 p. 2, 1857-58 (Padang, Sumatra), p.
 3 (Trusan, Sumatra); Nat. Tijds.
 Ned. Indie, vol. 16, p. 26, 1858
 (Tikoe).

1857-58, p. 1 (Amboina). — Bleeker,
Verslag. Akad. Wet. Amsterdam, deel
15, 1863, p. 266 (Ternate). — Günther, Cat.
Fish. Brit. Mus., vol. 3, 1861, p. 345 (Red Sea).
Acanthurus ruffellii Bleeker, Nat. Tijds.
Ned. Indie, deel 20, 1859-60, p. 202 (Cocos
Island).

Acanthurus blochii Bennett Proc. Zool. Soc.
London, 1835, p. 207. Tranguebar. (On
Acanthurus velifer Blach.)

Acanthurus hypselopterus Bleeker, Nat. Tijds.
Ned. Indie, deel 6, 1854, p. 327. Larantuka,
Floris Island. — Günther, Cat. Fish. Brit.
Mus., vol. 3, 1861, p. 344 (copied). — Günther,
Journ. Mus. Godeffroy, band 4, 1875, p. 117
(Samoa, Niue, Tokelau-Islands, Fiji). —
Steindachner, Denks. Akad. Wiss. Wien, band
70, 1902, p. 494, plate 4, fig. 1.

Zebrasoma hypselopteron Ogilby, Mem. Queensland
Mus., vol. 3, 1915, p. 135 (Raine Island). — Ogilby,
l.c., vol. 5, 1916, p. 174, plate 23 (Raine Island example).

Proxopodus depressifrons Günther,
 Cat. Fish. Brit. Mus., vol. 2, p. 140,
 1860 (type, said to be from Java).
 — Bleeker, Verh. Kon. Akad. Wet.
 Amsterdam, vol. 16, no. 2, p. 80,
 pl. 3, fig. 2, 1876 (Sumatra, Nias,
 Java, Celebes, Batjan, Borneo, Amboina);
 Atlas Ichth. Ind. Néerl., vol. 9, pl.
 (2) 412, fig. 1, 1873-77.

Apistus binotopterus Bleeker, Nat. Tijds.
 Ned. Indie, vol. 1, p. 26, 1850 (type
 locality, Batavia).

Apistus plagiometopon Bleeker, op. cit.,
 vol. 3, p. ⁽⁷⁴¹⁾753, 1852 (type locality,
 Boeloe-kamba, Celebes); vol. 11, p. 253,
 1856 (Laboeha, Batjan).

(Pearl Fisher. Mamar), 1890, p. 92. — Sauvage,
 Hist. nat. Madagascar, Poiss., 1891, p. 344
 (on Acanthurus elegant Liénaud, Treiz. rapp.
 Soc. hist. nat. Maurice, 1843, p. 69).

Acanthurus (Harpurus) velifer Klunzinger,
 Fisch. Roth. Meer., 1884, p. 85.

Zebrasoma veliferum Jordan and Evermann,
 Bull. U. S. Fish Comm., vol. 23, pt. 1, 1903

(1905), p. 396, fig. 173 (Honolulu and Samoa).

Acanthurus millis Valenciennes, Hist. nat.
 Poiss., vol. 10, 1830, p. ²⁵⁴187. Mauritius. (on
Blaming and Renard). — Günther, Cat. Fish.
 Brit. Mus., vol. 3, 1861, p. 345 (copied).

Acanthurus ruppellii Bennett, Proc. Zool. Soc.
 London, pt. 3, 1835, p. 207 (on Acanthurus
velifer Rüppell).

Acanthurus ruppellii Bleeker, Nat. Tijds.
 Ned. Indie, deel 8, 1855, p. (445) 451 (Cocos
 Island). — Bleeker, Nat. Soc. Sci. Ind. Néerl.,
 vol. 1, no. 3, 1856, p. 4 (Mamado); vol. 3, no. 7,

1786

Depth $2\frac{7}{8}$ to $3\frac{1}{4}$; head $2\frac{1}{2}$ to $2\frac{3}{5}$, width $1\frac{4}{5}$ to $2\frac{1}{8}$. Snout $4\frac{1}{3}$ to $4\frac{1}{2}$ in head from snout tip; eye 4 to $4\frac{1}{2}$, subequal with snout, greater than interorbital in young to subequal with age; maxillary reaches about $\frac{1}{4}$ to $\frac{1}{2}$ in eye, expansion $1\frac{1}{3}$ to $1\frac{2}{5}$ in eye, length $2\frac{1}{4}$ to $2\frac{1}{2}$ in head from snout tip; small patch of finely villiform teeth on vomer and much larger patch on each palatine; interorbital $5\frac{1}{4}$ to $5\frac{1}{2}$, but little elevated, slightly convex; suborbital spine $1\frac{2}{5}$ to $1\frac{1}{2}$ in eye; preopercular spine little shorter than interorbital; 4 preopercular spines. Gill rakers 3 + 11, lanceolate, $1\frac{1}{4}$ in gill filaments or 2 in eye.

Body with very finely and closely adherent minute scales, not easily detached. Lateral line

1787

incomplete on caudal peduncle, high, axial, of 20 or 21 rather long, large tubes.

D. III, X, 7, origin of spinous fin at first $\frac{2}{5}$ in postocular length of head, first spine $\frac{1}{2}$ to $\frac{3}{5}$ in space to tip of second spine, which $1\frac{1}{2}$ to $1\frac{7}{8}$ in total head, first ray $1\frac{3}{5}$ to 2; A. III, 5 or 6, third spine $1\frac{2}{5}$ to $1\frac{3}{4}$, first ray $1\frac{2}{5}$ to $1\frac{3}{5}$; caudal $1\frac{1}{6}$ to $1\frac{2}{5}$, slightly rounded behind; caudal peduncle 4 to $4\frac{1}{8}$; pectoral $1\frac{1}{10}$ to $1\frac{1}{8}$, rays I, 10; ventral rays I, 5, fin $1\frac{1}{5}$ to $1\frac{1}{4}$ in total head length.

Brown, above largely uniform, only slightly paler on under surface of head and belly. Broad white frontal band from origin of spinous dorsal to snout tip, expanding behind interorbital to

include that area, though a brown superciliary spot of mandible, also white spot on upper tip. Dorsals and anals uniform brown. Caudal whitish, especially hind edge narrowly which superimposed on broad blackish-brown submarginal band, also one basally; middle of fin with 3 or 4 ill defined brown waved cross bars.

Pectoral blackish brown, paler basally and with obscure waved transverse bars made up of small spots. Ventral blackish brown terminally, brownish basally.

East Indies, Philippines. Bleeker's figure does not show the white frontal band, so conspicuous in most of my materials. A very handsome species, easily known by

1789
its coloration, especially by the
broad light or whitish frontal
band. It also differs from
Bleeker's figure of Protopodasys
depressifrons in other details of
color.

One example. Below mouth of
Mindanao River, Cotabato,
Mindanao. May 20, 1908. Length 58
mm.

19706. Davao, Mindanao. May 16,
1908. Length 45 to 69 mm. Three
examples:

1790

Genus Gymnapistes Swainson

Gymnapistes Swainson, Nat. Hist.
Animals, vol. 2, p. 65, 1839. ~~Atypic~~
~~Atypic~~ (nomen nudum); p. 180
(atypic); p. 265. (Type Apistus
marmoratus Cuvier, designated
by Swain, Proc. Acad. Nat.
Sci. Philadelphia, p. 277, 1882.)

Gymnaspistes Agassiz, Monocl.
Zool. Index Univ., Prices, p.
1846. (Type Apistus marmoratus
Cuvier.)

Gymnapistus Bleeker, Verh. Kon.
Akad. Wet. Amsterdam, vol. 16, no.
2, p. 7, 1876. (Type Apistus
marmoratus Cuvier.)

21787. Tara Island. December 15, 1908. ¹³⁹¹

Length 75 mm.

16260. Teomabal Island. September 18, 1909.

Length 120 mm.

19372. Ulugan Bay, Palawan Island.
December 29, 1908.

8356 and 8357. Reefs in Apra Bay, Guam.
November 19-21, 1907. Length 80 to 104 mm.

1 example (D. 55/8.)

October 12, 1909. Length 24 mm.

3 examples. Apia, Samoa. Bureau of Fisheries.
Length 77 to 210 mm. As Viganus rostratus.

32735 U.S.N.M. Indian Archipelago.
Leiden Museum. Length 111 mm.

52352 U.S.N.M. Apia, Samoa. Bureau
of Fisheries. 4 examples. Length 73 to 260 mm.

57952 U.S.N.M. Zamboanga. Dr. E. A. Mearns.
334 examples. Length 20 to 26 mm.

Tetraroge Günther, Cat. Fish.

Brit. Mus., vol. 2, p. 132, 1860.

(Type Apeistus barbatus Cuvier,
designated by Jordan, Genera
of Fishes, pt. 3, p. 297, 1919.)

Body elongately ovoid, compressed.
Head rather large, obtuse or
nearly truncate in front,
without spiniferous crests
above. Snout steep, short.
Eye little elevated, in front
half of head. Mouth low, little
inclined, lower jaw protruded.
~~Teeth in~~ maxillary extends
below eye, expanded behind.
Teeth in jaws, on vomer and
palatines. Branchiostegals 7.
Preorbital with 2 spines, 3 to
5 on preopercle edge and 2
on opercle. No scales or skin
with minute rough spinules.
Dorsal continuous, spinous fin
begins over eye, with 12 to 14
spines, rays 8 to 10. Anal with
3 spines and 5 to 8 rays. Caudal
rounded behind. Pectoral
rounded, without free ray.

1793

Ventral with spine and 5 rays.

Small fishes of the Indo-Pacific. Known by their combination of characters, as the smooth upper surface of the head, absence of a detached pectoral ray, the smooth or scaleless skin, presence of palatine teeth and 7 branchiostegals.

Analysis of Species

a¹ Tetraroge. Second and third dorsal spines longer than those following.

b¹ Profile straight; 2 mental barbels; dorsal begins over middle of orbit. barbatus.

b² Pectoral convex; no mental barbels; dorsal begins above posterior part of eye.

c¹ Pectoral reaches anal. niger.

c² Pectoral reaches middle of anal. dracaena.

a² Gymnapistes. Second and third dorsal spines not longer than following ones.

d¹ No deep temporal depression; dorsal origin behind orbit; soft dorsal rays 10. marmoratus.

d² A deep temporal depression; dorsal begins over hind part of eye; soft dorsal rays 8. leucogaster.

Gymnapistes barbatus (Cuvier)

Apistus barbatus Cuvier, Hist. Nat. Poiss., vol. 4, p. 413, 1829 (type locality, "la rivière de la Bouana, Batavia").
— Bleeker, Act. Soc. Sci. Ind. Neerl., vol. 1, no. 5, p. (5) 36, 1856 (Amboina).

Gymnapistes barbatus Swainson, Nat. Hist. Animals, vol. 2, p. 266, 1839 (on Cuvier).

Gymnapistus barbatus Bleeker, Verh. Kon. Akad. Wet. Amsterdam, vol. 16, no. 2, p. 85, pl. 4, fig. 5, 1876 (Sumatra, Java, Celebes, Amboina).

1389

44 examples. Atulayan Bay, Luzon.
June 17, 1909. Length 36 to 80 mm.

19768, 19770. Bolalo Bay, Palawan.
December 21, 1908. 3 examples. Length 59 to
83 mm.

11998, 11999, 16044, 17141, 17142. Cabugan Island,
~~Hinunangan~~ ^{Hinunangan} Bay, Leyte Island. July 30, 1909.
Length 134 to 163 mm.

11338, 11339. Cebu market. April 4, 1908.
Length 103 to 108 mm.

22135. Cebu market. September 4, 1909.
Length 90 mm.

1 example. Cebu market. September 3, 1909.
Length 38 mm.

19274. Inamucan Bay, Mindanao.
Length 112 mm.

5971, 9165, 9166, 12809, 12810, 22238. Little Santa
Cruz, Zamboanga. May 26, 1908. Length 130 to 218 mm.
20389. Maculabo Island. June 14, 1909.
Length 75 mm.

Tetraroge barbata Günther, Cat. Fish.
Brit. Mus., vol. 2, p. 133, 1860 (copied).

Apistus melas Bleeker, Nat. Tijds.
Ned. Indie, vol. 1, p. (25) 26, 1850
(type locality, Padang, Sumatra);
vol. 6, p. 457, 1854 (Amboina).

— Jordan and Richardson, Bull. Bur.
Fishes, vol. 27, p. 280, 1907 (1908)
(Aparri); Philippine Journ. Sci.,
vol. 5, p. 52, 1910 (reference). —
Herre, Fishes Philippine Exped.,
p. 65, 1931 (1934) (Cotabato).

1388

contend that Siganus striolatus is distinct, as "in the type of striolatus the fins are said to be immaculate." We do not think this distinction can be of any value as Günther's types, were two stuffed specimens, any one familiar with old dried fish specimens knows that the brown blotches on the rays, as in a species of the present type, could readily fade out and appear immaculate. In our young examples the pale lines often have a more hexagonal reticulated appearance, several dark large blotches on the dorsals and anals, often 2 dark brown bands across chin with posterior narrower, double broad brown band across breast and another across belly behind ventral fins. Variable brown bands may be formed as 5 blotches along bases of anals. In the very young these blotches give the fish much the appearance of being cross banded, the rest of the fins white or immaculate and the bands extending out to the fin edges of the spinous portions.

1797

Depth $2\frac{3}{5}$; head $2\frac{2}{5}$, snout $4\frac{2}{3}$
in head from snout tip; eye $4\frac{2}{5}$,
subequal with snout; maxillary
extends slightly behind eye, &
expansion $1\frac{1}{3}$ in eye, length
 $2\frac{1}{3}$ in head from snout tip;
narrow bands of fine teeth in
jaws, on vomer and palatines,
band Λ -form on vomer; 2
mandibular barbels symphyseal,
long as eye; interorbital less
than to subequal with eye.

Preorbital spines 2, upper
larger or $1\frac{1}{5}$ times eye; 5 preop-
ercular spines, upper larger;
2 strong, divergent opercular
spines; conspicuous supra-
scapular spine.

Skin with transverse rows
of fine rugosities to minutely
granular or smooth.

D. XIII, 8, origin over front
of eye, second spine $1\frac{2}{5}$ in

total head length, third ray $2\frac{1}{2}$;
 A. III, 5 or 6, third spine $2\frac{1}{4}$;
 second ray $2\frac{3}{4}$; caudal $1\frac{3}{4}$,
 convex behind; depth of caudal
 peduncle 4; pectoral $1\frac{1}{3}$,
 rays I, 11 or 12; ventral rays
I, 5, fin $1\frac{7}{8}$ in total head
 length.

Body and fins pale to
 deep brown. Iris with reddish
 specks. Dorsal anteriorly and
 above with deeper shade. Fin
 rays usually edged yellowish
 or rose in pale specimens
 usually with deep brown broken
 line. Body seldom with pale
 red sparsely spotted brown
 or variegated with black.

Length 101 mm.

(Bleeker)

East Indies, Philippines.

Gymnapistes niger (Cuvier)

Apistus niger Cuvier, Hist. nat. Poiss.,
vol. 4, p. 415, 1829 (type locality,
mouth of Ariancoupang River,
Pondicherry). — Bleeker, Verh.
Batavia. Genoot. (Nat. Ichth.
Bengal), vol. 25, p. 36, 1853
(reference).

Gymnapistes niger Swainson,
Nat. Hist. Animals, vol. 2, p. 266,
1839 (on Cuvier). — Herre, Fishes
Philippine Exped., p. 65, 1931 (1934)
(hasugbu; Unisan; Tayay River
near Dumaguete).

1380
depth $2\frac{1}{4}$; head $3\frac{2}{3}$, width 2. Snout $1\frac{1}{8}$;
eye $3\frac{1}{6}$, $1\frac{3}{4}$ in snout, $1\frac{1}{6}$ in interorbital;
teeth about 46 in each jaw; maxillary $3\frac{1}{3}$
in head; interorbital $2\frac{2}{3}$, broadly convex;
preopercle ^{supraopercular arch} limb, and opercle feebly striate.
Gill-rakers $6 + 16$, short flexible points.

Scales minute, void elongate, cycloid,
86 to 108 circuli. Cheeks more or less
entirely covered with small scales to
preopercle ridge.

D. XIII, 10, V, fourth spine $2\frac{1}{6}$ in head,
third ray $1\frac{2}{5}$; A. VII, 9, I, third spine $2\frac{1}{10}$,
second ray $1\frac{2}{5}$; caudal evenly emarginate,
1; least depth of caudal peduncle $3\frac{1}{5}$;
pectoral $1\frac{1}{4}$; ventral $1\frac{3}{5}$.

Back dull brownish generally, sides
and below white. Below lateral line
about dozen parallel longitudinal pale
blue-gray bands, wide as interspaces
and each with brown border line; many
of bands joined or anastomose in places;
bands also continue on head, but
more or less obliquely; above lateral
line become greatly irregular, often
forming verruculations, arches, spots, etc.
Iris yellowish, brownish externally.
Fins all dull or drab brown, rays of
vertical ones with scattered or obscure
deeper brown spots or blotches. Below
last rays of soft dorsal pale to ventral
blotch on tail above.

Gymnapistus niger Bleeker,
 Verh. Kon. Akad. Wet. Amsterdam,
 vol. 16, no. 2, p. 86, pl. 3, fig. 5,
 1876. Sumatra; Nias; Bali;
 Celebes; Buru; Amboina. —
Day, Fishes of India, pt. 1, p.
 156, pl. 37, fig. 5, 1875 (Andamanas);
 Fauna of British India, vol. 2, p.
 66, fig. 26, 1889.

— Weber, Nova Guinea, vol. 5, pt. 2,
 p. 263, 1908. Klipang River, north New
 Guinea; Siboga Exped., vol. 65,
 Fische, p. 502, 1913 (Manado).
 — Fowler, Mem. Bishop Mus., vol.
 10, p. 297, 1928 (compiled).

1379

Siganus lineatus (Valenciennes).

Amphacanthus lineatus Valenciennes, Hist.
Nat. Poiss., vol. 10, 1835, p. ¹³⁰25, plate 186, Vanicolo
and New Guinea.

Gerthia lineata Günther, Cat. Fish. Brit. Mus.,
vol. 3, 1861, p. 322 (Cepid).

Siganus lineatus Jordan and Seale, Bull.
Bur. Fisher., vol. 26, 1906 (1907), p. 35 (Manila).
— Evermann and Seale, l.c., p. 98 ~~off the coast of~~
~~and~~ (Guam). — Jordan and Richardson, l.c.,
vol. 27, 1907 (1908), p. 271 (Cuyo ~~and~~ ~~the~~ ~~islands~~).
— Snyder, Proc. U. S. Nat. Mus., vol. 42, 1912,
p. 511 (Okinawa).

Siganus aurolineatus Ogilby, Mem. Queensland
Mus., vol. 1, 1912, p. 56. Somerset, North
Queensland.

Prosopodasys niger Günther, Cat.
Fish. Brit. Mus., vol. 2, p. 141, 1860
(Amboyna).

Apistus amblycephalus Bleeker,
Nat. Tijds. Ned. Indië, vol. 1, p. 27,
1850 (type locality, Padang, Sumatra);
vol. 12, p. 213, 1856 (Nias).

Tetraroge amblycephalus Günther,
Cat. Fish. Brit. Mus., vol. 2, p. 133,
1860 (copied).

Apistus amblycephaloides Bleeker,
Nat. Tijds. Ned. Indië, vol. 4, p. 240,
1853 (type locality, Priaman, Sumatra);
vol. 12, p. 213, 1856 (Nias); Act. Soc.
Sci. Ind. Neerl., vol. 1, no. 5, p. 5,
1856 (Amboyna); Nat. Tijds. Ned.
Indië, vol. 13, p. 56, 1857 (Kajeli,
Bum); Act. Soc. Sci. Ind. Neerl.,
vol. 3, no. 9, p. 3, 1857-58 (Trusan,

1378

Siganus argenteus (Duoy and Gaimard).

Amphacanthus argenteus Duoy and Gaimard.

Voy. Uranie, Zool., 1825, p. 368, plate 62, fig. 3. Mariannes, Guam. — Valenciennes, Hist.

Nat. Poiss., vol. 10, 1835, p. 118¹⁶¹ (Mariannes, Guam).

— Weber, Siboga Exped., band 65, 1913, p. 330 (Bianu Island).

Leuthis argentea Günther, Cat. Fish. Brit. Mus., vol. 3, 1861, p. 322 (Mariannes). — Günther, Journ.

Mus. Godeffroy, band 2-3 (5-6), 1874, p. 90

(locality?). — Elera, Cat. Faun. Filip., vol. 1, 1895, p. 531 (Luzon, Batangas, Masaybu).

Depth 4 in total. Silvery, back brownish. Originally described from an example 54 mm. long.

82913 U.S.N.M. Fiji. Wilkes Exploring Expedition. Length 55 mm.

Sumatra); *Nat. Tijds. Ned. Indië*,
vol. 17, p. 142, 1858-59 (Boeleng,
Bali); *Nat. Soc. Sci. Ind. Neerl.*,
vol. 5, no. 8, p. 1, 1858-59 (Klabat-
diatas, Celebes), p. 1. (Tobareri,
Celebes); *Nat. Tijds. Ned. Indië*,
vol. 22, p. 112, 1860 (Buru).

Differs from Siganus fuscus in color. According to Klunzinger this is greenish, dark above. Yellowish longitudinal line on lower half of head and body, which diffusely marbled with dark spots and oblique bands. Fint dark, dorsal rays yellow. Caudal with vertical rows of ^{dark} spots. Pectoral greenish yellow.

Red Sea and Nicobars. Listed by Elera from Cebu.

1803

Depth $2\frac{1}{4}$ to $2\frac{2}{3}$; head $2\frac{1}{3}$ to $2\frac{3}{5}$, width $1\frac{3}{4}$ to 2. Snout 4 in head from snout tip; eye 5 to $6\frac{1}{8}$, $1\frac{1}{8}$ to $1\frac{3}{5}$ in snout, -greater than interorbital to subequal with age; orbit 4 to $4\frac{2}{3}$ in head from snout tip; maxillary reaches half way in eye, expansion $1\frac{1}{5}$ to $1\frac{1}{2}$ in eye, length $2\frac{1}{5}$ to $2\frac{1}{4}$ in head from snout tip; minute villiform teeth in jaws, on vomer and palatines; pair of short symphyseal barbels, long as pupil; interorbital $5\frac{1}{2}$, low forward, high posteriorly, convex; preorbital with upper spine greatly larger, long as eye, lower spine very short; only one well developed preopercle spine, slightly shorter than upper suborbital spine. Gill rakers 4 + 8, short points, about $\frac{1}{3}$ of gill

filaments or 2 in orbit.

Skin smooth, scaleless. Most of head and region along bases of dorsals and anals, also sides of abdomen posteriorly, with small, scattered villous-like points. Lateral line high, axial, incomplete; about 11 long, slender tubes, last 3 wide set, with most posterior on middle of side of caudal peduncle.

D. XIII, 7 or 8, first spine inserted over middle or opposite hind edge of pupil, length but $\frac{1}{5}$ to $\frac{1}{4}$ in space to end of second spine, which $1\frac{2}{3}$ to 2 in total head length, first ray 2 to $2\frac{1}{4}$; A. III, 5, third spine $2\frac{1}{4}$ to $2\frac{7}{8}$, first ray $1\frac{3}{5}$ to 2; caudal $1\frac{1}{4}$ to $1\frac{1}{2}$, rounded behind; depth of caudal peduncle 4 to $4\frac{1}{4}$; pectoral $1\frac{1}{6}$ to $1\frac{2}{5}$, rays I, 11;

ventral I, 5, fin $1\frac{3}{5}$ to $1\frac{3}{4}$ in 1805
total head length.

Brown, very little paler on under surface of head and belly. Large, irregular whitish blotch on opercle and 3 on body; of which first below middle of spinous dorsal; second over front of anal and third between soft dorsal and soft anal. White band along front of head before spinous dorsal and included as white spot at tip of mandible.

Iris gray. Dorsals and anals slightly dusky marginally; some scattered, minute, black spots or specks along dorsals basally. Large whitish blotch on spinous dorsal posteriorly. Caudal largely whitish, with broad, black submarginal band and broad brown basal band; median

1806

white area with transverse brown waved bars. Pectoral with subterminal, broad, blackish brown bar, leaving only tips of rays white and broad basal brown bar, fin otherwise whitish. Ventral dark gray terminally, pale anteriorly and basally.

India, Andamans, East Indies, Philippines. Known by its coloration and combination of structural characters. The spinous dorsal begins over the eye, with the second spine longest. The white frontal bar along the edge of the head is also conspicuous, as are the white blotches on the dorsals, body and head. With age the color of the head and body appears uniform dark brown.

20066. Batangas, Batangas River, Luzon. June 7, 1908. Length 44 mm. Markings obscured.

9837. Malaga River, Hunningan Bay, Leyte. July 30, 1909. Length 122 mm.

20350. Lato River. June 17, 1909. Length 54 mm.

14977 [1266]. Refugio Island, Pasacao, Luzon. March 9, 1909. Length 47 mm. Quite dark in color, though with obscure pale areas as in the type.

Three examples. Santiago River, Pagapas Bay, Luzon. February 20, 1909. Length 29 to 42 mm. These evidently discolored dull brown largely, with small, scattered blackish spots.

One example. Great Tobea Island. December 15, 1909. Length 29 mm.

Two examples. Goron River. November 15, 1909. Length 38 to 50 mm.

Gymnapistes dracaena (Cuvier)

Apistus dracaena Cuvier, Hist. nat. Poiss., vol. 4, p. 403, 1829 (type locality, Malabar). — Bleeker, Verh. Batavia. Genoot. (Nat. Dicht. Bengal), vol. 25, p. 36, 1853 (reference).

Trichosomus dracaena Swainson, Nat. Hist. Animals, vol. 2, p. 265, 1839 (on Cuvier).

Protopodasys dracaena Günther, Cat. Fish. Brit. Mus., vol. 2, p. 140, 1860 (copied). — Day, Fishes of Malabar, p. 42, 1865.

1387

Depth $2\frac{1}{2}$ to $2\frac{2}{3}$; head $3\frac{1}{2}$ to $4\frac{1}{6}$, width $1\frac{7}{8}$ to 2. Snout $2\frac{1}{3}$ to $2\frac{1}{2}$; eye 3 to $3\frac{1}{2}$, $1\frac{1}{8}$ to $1\frac{1}{4}$ in snout, equal to greater than inter-orbital; teeth about 35 in each jaw; maxillary $3\frac{1}{5}$ to $3\frac{2}{5}$ in head; interorbital $2\frac{7}{8}$ to 3, very slightly elevated and also with slight median depression; preorbital, preopercle flange, opercle and scapular arch striate. Gill rakers 5+16, short, weak points.

Scales small, ovoid, cycloid, 20 to 48 circuli. Cheeks largely covered with small scales, often marked with a strip above and below along preopercle ridge.

D. XIII, 10, I, fifth spine $1\frac{3}{4}$ to 2 in head, third ray $1\frac{1}{2}$ to $1\frac{2}{3}$; A. VII, 9, I, third spine $1\frac{3}{4}$ to $2\frac{1}{8}$, third ray 2 to $2\frac{1}{8}$; caudal $1\frac{1}{8}$ to $1\frac{1}{10}$, slightly emarginate; least depth of caudal peduncle 4 to 5; pectoral $1\frac{1}{8}$ to $1\frac{1}{3}$; ventral $1\frac{2}{5}$ to $1\frac{1}{2}$.

Body dull brown, pale to whitish below. Back and sides marked with vermice-lating lines of gray more or less as reticulations. Skin grayish yellowish-white. Vertical fins brown, spinous portions clouded with dusky and on rayed portions each ray with several brown blotches. Pectorals pale uniform brown. Ventral grayish, with 4 series of deep brown blotches.

East Indies, Philippines, Riu Kiu, Melanesia, Micronesia, Polynesia. Jordan and Seale

Gymnapistes dracaena Day, Fishes
of India, pt. 1, p. 156, pl. 38, fig. 1,
1875 (western India, Ceylon, Canara);
Fauna of British India, vol. 2, p.
67, 1889.

Gymnapistes dracaena Fowler, Journ.
Bombay Nat. Hist. Soc., vol. 30, no. 2,
p. 321, Jan. 25, 1925 (Bombay).

p. 5-17 (Delaban, West Sumatra).

Xenthis striolata Günther, Cat. Fish. Brit.

Mus., vol. 3, 1861, p. 319. Aneteum, New

Hebrides. — Günther, Journ. Mus. Godeffroy,

band 2-3, heft 4-5 1874, p. 89, plate 59, fig.

a (New Hebrides, Solomons, Samoa, Friendly Islands, Society Islands). — Beaufort,

Bijd. dierk. Amsterdam, deel 19, 1913, p. 125.

Siganus rostratus (part) Jordan and Seale,

Bull. Bur. Fisher., vol. 25, 1905 (1906), p. 360

(Apia).

Siganus tetrazurus (non Bleeker) Vnyder,

Proc. U. S. Nat. Mus., vol. 42, 1912, p. 511

(Okinaawa, Riu Kiu).

Apistus belangerii Cuvier, Hist. nat. Poiss., vol. 4, p. 412, 1829 (type locality, Mahe; Malabar). —

Belanger, Voy. Ind. Orientales, Zool., p. 349, 18

— Bleeker, Verh. Batavia. Genoot. (nat. Ichth. Bengal, vol. 25, p. 36, 1853 (reference)).

Gymnapistes belangerii Swainson, Nat. Hist. Animals, vol. 2, p. 266, 1839 (on Cuvier).

1, 1863, p. 270 (Atapupu, Timor); l.c., deel
3, 1866, p. 42 (Harauko). — Günther, Journ.
Mus. Godeffroy, band 2-3, heft 5-6, 1874,
p. 90 (Caroline and East Indies). —
Steindachner, Abhandl. Senckenberg. Gesell.,
band 25, 1900, p. 426 (Ternate).

Siganus marmoratus Jordan and Seale,
Bull. Bur. Fisher., vol. 26, 1906 (1907), p. 35
(Manila). — Jordan and Richardson, l.c.,
vol. 27, 1907 (1908), p. 271 (Calayan). —
Snyder, Proc. U. S. Nat. Mus., vol. 42, 1912, p.
51 (Okinawa). — Fowler, Copeia, no. 58,
June 18, 1918, p. 64 (Philippines). — Fowler,
Bishop Mus. Bull., no. 22, 1925, p. 12 (Guam).

Amphacanthus guamensis Valenciennes,
Hist. Nat. Poiss., vol. 10, 1835, p. 163. (Guam).

Amphacanthus scaroides Bleeker, Nat.
Tyds. Ned. Indië, deel 4, 1853, p. 262,
Priaman and Cauer, Sumatra, l.c., deel 6,
1854, p. 90 (Banda Neira), p. 204 (Timor Kupang).

Depth $2\frac{2}{3}$ to $2\frac{3}{4}$; head $2\frac{1}{8}$ to $2\frac{1}{5}$, width 2 to $2\frac{1}{10}$. Snout $4\frac{3}{4}$ in head from upper jaw tip; eye $3\frac{2}{3}$ to $4\frac{3}{4}$, subequal with snout or interorbital; maxillary reaches $\frac{3}{5}$ in eye, expansion $1\frac{2}{5}$ to $1\frac{1}{2}$ in eye, length $2\frac{1}{3}$ to $2\frac{1}{2}$ in head from snout tip; teeth minute, fine, in bands in jaws, on vomer and palatines, none on tongue; interorbital $4\frac{3}{4}$, convex. Gill rakers $5+13$, short, clavate, $\frac{1}{3}$ of gill filaments, which $\frac{1}{2}$ of eye. Front preorbital spine short, hind one long or $\frac{2}{3}$ to $\frac{3}{4}$ of eye; opercular spine nearly long as orbit.

Tubes 22 or 23 + 1 in lateral line. Scales very small, rather sparse on trunk, not extending on preorbital, chest or belly and few on head. Scales with 3 basal

radiating striae; circuli about 15.

D. III, IX, 7 or 8, third spine $1\frac{3}{4}$ to $2\frac{1}{2}$ in total head length, second ray $1\frac{7}{8}$ to 2; A. III, 6, third spine 2 to $2\frac{1}{3}$, second ray $1\frac{7}{8}$ to 2; caudal $1\frac{1}{4}$ to $1\frac{1}{3}$, truncate; least depth of caudal peduncle $3\frac{3}{4}$ to 4; pectoral 1 to $1\frac{1}{10}$; ventral $1\frac{1}{3}$ to $1\frac{1}{2}$, reaches soft anal origin, spine $\frac{3}{4}$ to $\frac{4}{5}$ of fin length.

Gray brown, with irregular darker blotches on back and upper surfaces. Lower surfaces pale to whitish. Iris slaty. Black blotch on spinous dorsal from sixth to eighth spines. Soft dorsal nearly black. Caudal whitish, with 3 gray submarginal transverse streaks. Other fins all more or less neutral black.

terminally, though basal half of
ventral blackish.

India, Ceylon.

A. h. S. P., 2 examples. Bombay,
India. 1925. Prof. F. Hallberg.
Length 41 and 42 mm. Two examples.

Gymnapistes marmoratus (Cuvier)

Apistus marmoratus Cuvier, Hist. Nat. Poiss., vol. 4, p. 416, 1829 (type locality, "Timor" (Peron, I? = Western Australia). — Valenciennes, Règne Animal, Cuvier, Ed. Ill., pl. 24, fig. 3, 1839.

Gymnapistes marmoratus Swainson, Nat. Hist. Animals, vol. 2, p. 266, 1839 (on Cuvier). — McCulloch, Australian Mus. Mem., no. 5, pt. 3, p. 388, no. 28, 1929 (reference). — Whitley, Australian Zool., vol. 6, p. 313, 1931.

♀ Gymnapistes marmorata

Gymnapistes marmoratus Bleeker, Verh. Kon. Akad. Wet. Amsterdam, vol. 16, no. 2, p. 87, 1876 (copied).

no locality, likely Philippines? 1382
1296. ~~Amolake, Hawaiian Islands.~~
1891. Length 303 mm.

Pentapogon marmorata Günther,
Cat. Fish. Brit. Mus., vol. 2, p. 132,
1860 (Van Dieman's Land, Australia).

— Steindachner, Sitzsb. Akad. Wiss.
Wien, math.-naturw. Kl., vol. 57,
p. 985, 1868 south coast of New Holland.

— Castelnau, Proc. Zool. Acclimat.
Soc. Victoria, vol. 1, p. 82, 1872
(Melbourne). — Macleay, Proc. Linn. Soc.
New South Wales, vol. 5, p. 439, 1881 (Port Jackson).

Apistus jennynsii Bleeker, Verh. Kon.
Akad. Wet., Amsterdam, vol. 2, p. 8,
1855 (type locality, Tasmania).

Apistes tasmanensis Gray, Ann. Mag.
Nat. Hist., London, vol. 1, p. 111, April
1838 (type locality, Van Dieman's
Land).

1381

Compared with the original figure
our specimen differs a little, likely
a condition of age. It shows more
horizontal bands and the spots on the
soft vertical fins are more in dis-
tinct. It seems quite likely that

Siganus aurolineatus Ogilby is based on
a half grown example.

Mouth cleft slightly oblique;
maxillary reaches $\frac{1}{2}$ in eye.
Preorbital spine very long,
dagger shaped. D. ~~XII~~ or ~~XIII~~, 10,
begins on neck. A. ~~III~~, 6. Dirty
yellowish, largely marbled
with brown. (Günther.)

Western Australia, South
Australia, Victoria, New
South Wales, Northern Territory,
Tasmania.

Gymnapistes leucogaster (Richardson)

Apistus leucogaster Richardson, Voy.
Samarang, Fish, p. 5, pl. 5, figs. 1-2,
1848 (Type locality,

— Bleeker, Nat. Tijds. Ned. Indie,
vol. 4, p. (92) 111, 1853 (Amboina);
Act. Soc. Sci. Ind. Neerl., vol. 1,
no. 5, 1856 (Amboina); vol. 2,
no. 7, p. 4, 1857 (Amboina).

Prosopodasys leucogaster Günther,
Cat. Fish. Brit. Mus., vol. 2, p. 141,
1860 (type of Apistus leucogaster). —
Kner, Sitzb. Akad. Wiss. Wien, math.-
naturw. Kl., vol. 58, pt. , p. 309, 1868
(). — Playfair, Proc.
Zool. Soc. London, p. 240, 1869.

p. 200 (Yoram); l.c., deel 16, 1858, p. 209
 (Batjan); l.c., deel 17, 1858-59, p. 143
 (Boelung, Bali); l.c., deel 19, 1859, p. 331
 (Patjitan, Java), p. 333 (Karangbollong);
 l.c., deel 22, 1860, p. 245 (Batoesendi, Bauvean),
 p. 249 (Timor). — Bleeker, Act. Soc. Sci.
 Ind. Néerl., vol. 1, no. 3, 1856, ³¹p. 4, (Manado);
 l.c., vol. 3, no. 4, 1857-58, p. 3 (Manado);
 l.c., vol. 3, no. 9, 1857-58, p. 4 (Trussan);
 l.c., vol. 5, no. 8, 1858-59, p. 2 (Tobariri,
 Celebes). — Kner, Reise Novara, Fisch., 1866,
 p. 207 (Tahiti). — Weber, Siboga Exped.,
 band ⁵⁷65, 1913, p. 327 (Manado and Banda).
Yenthi marmorata Bleeker, Verslagen Akad.
 Wet. Amsterdam, deel 14, 1862, p. 97 (Sernate);
 l.c., -deel 2, series 2, 1868, p. 276 (Batjan); l.c.,
 deel 2, series 7, 1873, p. 36 (Am Islands). —
Günther, Cat. Fish. Brit. Mus., vol. 3, 1861,
 p. 322 (Borneo). — Bleeker, Ned. Tijds. Dierk.,
 deel 1, 1863, p. 254 (Wahai, Ceram); l.c., deel

Gymnopristus leucogaster Bleeker,
Verh. Kon. Akad. Wet. Amsterdam,
vol. 16, no. 2, p. 88, pl. 4, fig. 1, 1876
(Amboina; Ceram; Timor. — Weber,
Siboga Exped., vol. 65, Fische, p. 502,
1913 (Lombok).

Siganus spinus (Linnaeus).

Siganus spinus Linnaeus, Syst. Nat., ed. 10, 1758, p. 281. East Indies. — Osbeck, Reise. ost. China, 1765, p. 357 (China). — Linnaeus, l.c., ed. 12, 1766, p. 471. — Bonnaterre, Tabl. Ichth., 1788, p. 103 (East Indies). — Gmelin, Syst. Nat. Linn., 1789, p. 1278 (East Indies). — Walbaum, Arted. Pisc., vol. 3, 1792, p. 291 (on Linnaeus). — Forster, Fauna Indica, 1795, p. 15.

Amphacanthus marmoratus Duoy and Gaimard, Voy. Uranie Zool., 1825, p. 367, plate 62, figs. 1-2. Guam. — Valenciennes, Hist. Nat. Poiss., vol. 10, 1835, p. ¹²⁴40 (Marianne; Java). — Bleeker, Nat. Tijds. Ned. Indië, deel 10, 1856, p. 360 (Ternate); l.c., deel 11, 1856, p. 95 (Banda), p. 489 (Ceram); l.c., deel 12, 1856, p. 193 (Ternate); l.c., deel 13, 1857, p. 56 (Kajeli, Buru), p. 478 (Karangbolon), p. 479 (Prigi, Java); l.c., deel 14, 1857, p. 245 (Prigi); l.c., deel 15, 1858,

Depth $2\frac{4}{5}$; head $2\frac{2}{3}$, width $1\frac{2}{3}$.
Snout 4 in head from snout tip;
eye 5, $1\frac{1}{4}$ in snout, greater than
interorbital; maxillary reaches
 $\frac{1}{2}$ in eye, expansion $1\frac{1}{2}$ in orbit,
length $1\frac{9}{10}$ in head from snout
tip; orbit $3\frac{3}{5}$; bands of fine,
villiform teeth in jaws, on vomer
and palatines; interorbital $6\frac{1}{4}$,
low, slightly depressed or concave.
Gill rakers 6 + 7, low tubercles,
about $\frac{1}{3}$ gill filaments, which
 $1\frac{1}{4}$ in eye. Preorbital spine long
as eye, subequal with preopercular
spine, and ~~and~~ latter with 3 more below.

Scales few or absent from
head, on body minute, non-
imbricate, firmly adherent;
also mostly absent from area
about first spinous dorsal.
Lateral line high, incomplete,
axial, of 17 slender, rather long

tubes, last 3 widely spaced.

D. III, X, 7, origin of first spinous dorsal over hind edge of eye, spine length $\frac{1}{2}$ in space to tip of second spine, which $1\frac{3}{4}$ in total head length, third ray $1\frac{2}{3}$; A. III, 6, third spine 2, third ray $1\frac{2}{3}$; caudal $1\frac{1}{3}$, rounded behind; least depth of caudal peduncle 3; pectoral 1, rays I, 11; ventral I, 5, fin $1\frac{3}{5}$ in total head length.

Brown, clouded obscurely with paler and darker, on head with finely speckled appearance. Pale or whitish bar from lower front eye edge across maxillary medially; another from lower hind eye edge to include vertical limb of preopercle. Dorsals mottled with darker brown than general tint; on middle part of

membrane broadly from fifth to ¹⁸⁴¹ eighth spines large black blotch; below this and longitudinally or subbasally to front rays of soft fin a whitish streak. Anal and caudal speckled with brown, forming waved cross bands. Pectorals similar, only darker or blackish on fin terminally. Ventral dusky to blackish, spine pale.

East Indies.

19705. Davao, Mindanao. May 16,
1908. Length 69 mm.

Genus Cocotropus Kaup

1822

Cocotropus Kaup, Archiv Naturg.,
pt. 1, p. 333, 1858. (Type Corythobatus
echinatus Cantor, monotypic.)

Erisphex Jordan and Starks, Proc.
U. S. Nat. Mus., vol. 27, p. 168, 1904.

(Type Cocotropus pottii Steindachner,
designated by Jordan, Tanaka, Snyder,
Journ. College Sci., vol. 32, art. 1,
p. 251, 1913.)

~~Cocotropus Barnard, Ann. South
African Mus., vol. 21, pt. 2, p. 918,
Oct. 1927. (Type Corythobatus-
echinatus Cantor.)~~ Weber, Siboga
Exped., vol. 57, Fische, p. 503, 1913.
(Type Corythobatus echinatus Cantor.)

1417

times upper limits variably narrowed or with undulations; each oblique band with narrow pale marginal line and intervening areas pale or grayish, also area behind posterior band. Over and within dark with pale bands on upper surface of back variable gray to dusky vermiculation or waved lines, though mostly transverse, so that 9 or 10 cross front of body before dorsal in space down to snout, with age about 15. Often a number of dark oblique lines down on preorbital within dark band. Examples often show pale area in lower half of head spotted with brown or in other cases with varied vermiculating bluish or dark gray lines. Often times whole back with pale gray to deep brown spots which extend more or less sparsely on abdomen, in some cases forming variably vertical blue-gray parallel lines over costal region and trunk above. Some examples may show 1 or 2 parallel gray lines on sides of thorax before pectoral base. Spinous dorsal and spinous anal brown, often clouded darker, and in adults often large scattered dusky spots scattered on membranes medially to basally. Soft vertical fins often clouded with brownish. Paired fins dull brown.

Body elongate, compressed.

1843

Head moderate. Snout short, oblique. Eye high, in front half of head. Mouth well inclined, lower jaw protruded. Maxillary extends below eye. Teeth in jaws and on vomer, none on palatines. No barbels. Head not cuirassed, without fleshy tentacles. Pre-orbital and preopercle with strong, blunt spines. No cleft behind fourth gill. ^{Branchiostegals 5 or 6.} Air bladder present. Scales rudimentary or as granular papillae, or absent. Dorsals continuous, spinous portion long, but little elevated or not anteriorly, spines 11 to 15, rays 9 to 11, Anal with 1 or 2 weak spines and 7 to 10 soft rays. Pectoral rounded, without free ray. Ventral with spine and 2 or 3 rays.

1824

Indo Pacific. Small fishes,
closely related with granulated
skin and simple fin rays.

Analysis of Species

a.¹ Cocotropus. Ventral I, 3 to I, 5.

b.¹ D. XIII to XV, 9 to 11; A. I or II, 7 or 8.

c.¹ Dark brown, speckled with
blackish spots on body and fins;
dark band on tail; Anal spine 1.
monacanthus.

c.² Anal spines 2.

d.¹ Flesh color; fins edged white;
anal with black spots. roseus.

d.² Body with ocellated black
spots, 3 along free border of
caudal. echinatus.

1895

b.² D. XII, 9; A. III, 8; uniform.
dermacanthus.

a.² Erisphey. Ventral I, 1 or 2;
D. X to XII, 11 to 13; A. I or II, 9 or
10.

e.¹ Head 3 to $3\frac{1}{5}$. pottei.

e.² Head $3\frac{1}{4}$ to $3\frac{1}{2}$. achurus.

1826

Cocotropus monacanthus (Gilchrist)

Tetraroge monacanthus Gilchrist,
Marine. Investig. South Africa, vol.
4, p. 145, pl. 37, 1905 (type locality;
Coast of Natal, False Bluff, North East
 $4\frac{3}{4}$ miles, in 20 fathoms; off
Umhlanga River mouth, $2\frac{1}{2}$ miles,
in 22 to 26 fathoms). — Gilchrist
and Thompson, Ann. Durban Mus.,
vol. 1, pt. 4, p. 410, May 21, 1917 (reference).

Cocotropus monacanthus Barnard,
Ann. South African Mus., vol. 21, pt. 2,
p. 918, Oct. 1927 (Natal, in 20 to 26
fathoms).

Seal brown bar from nape through eye to tip of chin, broken into round spots above eye. Cheek and upper part of opercle sulphury yellow, edge of opercle and interopercle white. Forehead and snout above washed with yellow. Side of body marked with numerous wavy blue pale lines, more or less parallel to outline except in shoulder, where obliquely vertical for about $\frac{2}{3}$ distance of depressed pectoral above shoulder under spinous dorsal and as lines of broken roundish spots; somewhat same at caudal base. Iris dusky, with some golden. Area before pectoral base and above markedly tinged with orange. Vertical fins like body but more yellowish. Anal base pale. Pectoral hyaline yellow. Ventral soiled white with yellowish wash

1827

Depth 3; head $2\frac{3}{5}$. Snout $2\frac{2}{5}$
in head; eye $4\frac{4}{5}$, $1\frac{7}{8}$ in snout,
1 in interorbital; maxillary reaches
 $\frac{3}{4}$ to eye, length $3\frac{1}{4}$ in head;
villiform teeth in jaws, on vomer,
but none on palatines.

Two bony ridges extend along
snout and over interorbital to
meet dorsal fin. Superciliary
ridges equally prominent to
interorbital & crossed by 4 longi-
tudinal ridges. No prominent
spines on opercle. Under each
jaw a small, inconspicuous,
dermal flap. Two bony ridges
run backwards from orbit
nearly to under fourth spine,
1 a continuation of superciliary
ridge and the other parallel
to it but at lower level.
Preorbital with 2 blunt spines,

second larger and equals eye.
Preopercle with 4 blunt spines,
first or lowest very small and
posterior equals larger of 2
preorbital spines.

Skin covered with rough
papillae, greater than interspaces.
Lateral line with 10 tubes.

D. XIII, 10, origin over center
of eye, first 3 longest and
first 3 in head; third ray 2;
A. I, 8, seventh ray $2\frac{4}{5}$; Caudal
 $1\frac{4}{5}$, convex behind; least depth
of caudal peduncle $3\frac{2}{3}$; pectoral
 $1\frac{1}{2}$, reaches vent; ventral 3
in head, rays I, 5, reaches
half way to vent.

Dark brown, speckled
with blacker spots on body and
fins. Dark band on tail.

Length 47 mm. (Gilchrist)
natal.

Cocotropus roseus Day

Cocotropus roseus Day, Fishes of India, pt. 1, p. 160, pl. 38, fig. 8, 1875 (type locality, Madras, India); Fauna of British India, vol. 2, p. 71, fig. 30, 1889.

Depth 3; head $2\frac{3}{4}$. Snout 3 in head; eye 3, $1\frac{1}{3}$ in snout, greater than interorbital; maxillary not reaching eye, length $3\frac{3}{4}$ in head from snout tip; no barbels; teeth villiform, in jaws and on vomer, nine on palate; front profile steep, inclined.

Preorbital with 2 blunt spines, longest going backward to beneath first third of eye,

terminally.

7586. Endeavor Strait, Malampago Sound, Palawan Island. December 23, 1908. Length 280 mm. Ground color yellowish or bronzed. Bars and vermiculations slaty.

A 1231 and 19795. Gomomo Island. December 3, 1909. Length 98 to 250 mm.

4868. Jolo market. February 13, 1908. Length 232 mm.

A 1145 and 9720. Kayoa Island. November 29, 1909. Length 150 to 225 mm.

7916. Limbones Cove, Luzon. February 8, 1909. 2 examples. Length 253 to 255 mm. General color olive yellow, in life bright lemon yellow merging into slate white on lower surfaces. Top and side of head olive yellow. Brown stripe or bar from chin through eye meeting across nape in predorsal, below eye bordered

lower shorter one little downwards and backwards. Rough ridge of preorbital stay to angle of preopercle, where 2 blunt spines, upper longer and equals orbit; 2 more smaller spines along its horizontal limb; 3 opercular spines; an elevated occipital ridge, also temporal one with 3 blunt spines.

No scales, skin with many widely spread rough elevations, becoming somewhat spinate in large specimens. Tubes of lateral line 10 or 11, distinct, occupy its whole length.

D. XIV or XV, 9 or 10, origin over middle of eye, first spine 2 in head, first branched ray $2\frac{1}{2}$; A. II, 7 or 8, second spine 5, first ray $2\frac{3}{4}$; caudal $1\frac{2}{5}$, hind

edge convex; least depth of caudal peduncle $3\frac{1}{2}$; pectoral $1\frac{1}{4}$, rays 14, reaches origin of anal; ventral rays I, 3, fin $1\frac{4}{5}$ in head.

Flesh color, fins with more of pinkish tinge. Dorsal edged with white, having dull gray band along its center and most distinct in its last half. Caudal edged with white, with dull base due to numerous gray spots. Anal and pectoral reddish, former having many black spots upon it. Ventral white. Length 55 mm. (Day.)
India.

Cocotropus echinatus (Cantor)

Corythobatus echinatus Cantor, Journ. Asiatic Soc. Bengal, vol. 18, pt. 2, p. 1027, pl. 13, 1849 (1850) (type locality, Pinang Sea).

Aplotaetis echinatus Bleeker, Act. Soc. Sci. Ind. Neerl. Enumerat. Pisc., vol. 6, p. 44, 18 (reference).

Cocotropus echinatus Kaup, Archiv Naturg., pt. 1, p. 333, 1858 (reference).
— Day, Fishes of India, pt. 1, p. 159, 1875 (Andamans). — Bleeker, Verh. Kon. Akad. Wet. Amsterdam, vol. 16, no. 2, p. 91, 1876 (compiled). — Day, Fauna of British India, vol. 2, p. 71, 1889.

1414

21377. Talise Island. November 9,
1909. Length 78 mm.

4962. Tataan Island, Tawi Tawi Group.
February 21, 1908. Length 133 mm.

A 463. Sulnalan Island.
September 9, 1909. Length 233 mm.

70855. Tuter Bay, Jolo Island.
September 17, 1909. Length 92 mm.

71658. U.S.N.M. Kafa, Okinawa, Riu
Kiu. Albatross Collection 1906. Length 203 mm.
As Siganus marmoratus.

— Fowler, Journ. Bombay Nat. Hist.
Soc., vol. 30, no. 3, p. 643, June 30, 1925
(Madras).

1413

Fins below lemon yellow, membranes slightly hyaline, without spots or bars.

15336. Port Palapag. June 3, 1909.

Length 190 mm.

12116 [925]. Port Usan, west of Pinas Island. December 17, 1908. Length 184 mm. Upper surfaces with olive and yellow tints. Vermiculating lines slate. Lower surfaces pale. Fins distinctly yellow.

8782. Quinalasag Island. June 12, 1909. Length 246 mm.

8255. Saboon Island, Ragay Gulf. March 10, 1909. Length 248 mm.

15766. Sacol Island. September 9, 1909. Length 112 mm.

A 954 and A 955. Sadaa Island. November 17, 1909. Length 266 to 300 mm.

5715. Suragao, Mindanao. May 8, 1908. Length 292 mm.

Tetraroge echinata Günther, Cat.

Fish. Brit. Mus., vol. 2, p. 137, 1860
copied.

Apistus spinosa Day, Fishes of India,
pt. 1, p. 160, 1875 (type locality,
Andaman Islands) (name in text).

light. Caudal uniform, very dark brown, almost blackish. Pectoral rays dark brown, hyaline at tips, also membranes. Ventral like pectoral.

A 1435. Kait Point, Libani Bay, Celebes.
December 29, 1909. Length 273 mm.

A 865. Limbe Strait, Celebes.
November 10, 1909. Length 253 mm.

A 1583. So Wan, eastern Formosa.
January 29, 1910. Length 250 mm.

1835

Depth $2\frac{4}{5}$ to $2\frac{7}{8}$; head $2\frac{7}{8}$ to 3, width $1\frac{1}{4}$ to $1\frac{1}{3}$. Snout 3 to $3\frac{1}{8}$ in head from snout tip; eye $3\frac{2}{3}$ to $3\frac{4}{5}$, $1\frac{1}{8}$ to $1\frac{1}{6}$ in snout, greater than interorbital; maxillary reaches eye, expansion 2 in eye, length $2\frac{4}{5}$ to $3\frac{1}{8}$ in head from snout tip; teeth minute, villiform, in bands in jaws, patch each side of vomer, none on palatines or tongue; interorbital 4 to $4\frac{1}{8}$, convex. Preorbital with strong bifid spine; preopercle with 4 strong spines, upper largest; opercle with 3 spines. Gill rakers 5, low, short knobs on lower branch of first arch, greatly shorter than gill filaments, which $1\frac{1}{2}$ in eye.

Trunk with minute, scattered papillae, most numerous and crowded on lower surface of body. Lateral line of 11 long, slender tubes in course to caudal base.

1836

D. XIV, 10 or 11, first spine $1\frac{2}{3}$ to $1\frac{3}{4}$ in head, first ray $2\frac{1}{4}$ to $2\frac{3}{4}$; A. II, 8, first ray $3\frac{1}{4}$ to $3\frac{1}{3}$; caudal $1\frac{1}{4}$ to $1\frac{2}{5}$, rounded behind; least depth of caudal peduncle $2\frac{4}{5}$ to 3; pectoral $1\frac{1}{4}$ to $1\frac{1}{3}$; ventral $1\frac{3}{4}$ to $1\frac{4}{5}$.

Back purplish brown generally, becoming white below. Fins all brownish, obscurely spotted or mottled with darker.

India, Andamans, Malaya.

A. N. S. P., 3 examples. Madras, India.
1922. Madras Fisheries Department.
Length 51 mm.

1837

Cocotropus dermacanthus (Bleeker)

Apistus dermacanthus Bleeker, Nat.
Tijds. Ned. Indië, vol. 3, p. (237) 268,
1852 (type locality, Waihai, northern
Ceram).

Aploactis dermacanthus Bleeker, Act.
Soc. Sci. Ind. Néerl. (Enum. Pisc.),
vol. 6, p. 44, 1859 (reference).

Tetraroze dermacanthus Günther, Cat.
Fish. Brit. Mus., vol. 2, p. 136, 1860
(compiled).

18

1417

Thentis virgata Steindachner, Sitzber.
Akad. Wiss. Wien, band 60, heft 1, 1870,
p. 565 (Singapore). — Müncher, Mitteil.
Nat. Mus. Hamburg, band 21, 1903 (1904),
p. 159 (Singapore).

Teuthis virgatus ^{us} Fowler, Journ. Acad.
Nat. Sci. Phila., vol. 12, series 2, 1904, p. 546
(Padang).

Siganus virgatus Jordan and Fowler,
Proc. U. S. Nat. Mus., vol. 25, 1902, p. 562
(copied). — Jordan and Seale, Bull. Bur.
Fisher., vol. 26, 1906 (1907), p. 35 (Panay). —
Evermann and Seale, l.c., p. 98 (Bacon).
— Seale and Bean, Proc. U. S. Nat. Mus.,
vol. 33, 1907, p. 247 (Gambouga). — Jordan
and Richardson, Bull. Bur. Fisher., vol.
27, 1907 (1908), p. 271 (Cuyo).

Cocotropus dermacanthus Bleeker,
Verh. Kon. Akad. Wet. Amsterdam,
vol. 16, no. 2, p. 92, pl. 5, fig. 6, 1876
(Ceram).

Cocotropus dermacanthus Weber,
Siboga Exped., vol. 65, Fische, p. 503,
1913 (Sulu Archipelago, in 16 to 23
m.).

1416

(Java and Singapore) — Von Martens,
Preuss. Exped. Ost-Asien, 1876, p. 394
(Singapore).

Gouan, Mem. Soc. Sci. Nat. Cherbourg, vol. 2,
series 2, 1866, p. 124 (Poulo-Condor, off
Lower Cochin).

Xenthis virgata Günther, Cat. Fish. Brit.
Mus., vol. 3, 1861, p. 323 (China and Philippines).
— Bleeker, Verslagen Akad. Wet. Amsterdam,
deel 2, series 2, 1868, p. 291 (Rio, Bintang). —
Day, Fishes of India, pt. 1, 1875, p. 166, plate
40, fig. 3 (Andaman). — Károli, Termesz.
Füzete, Budapest, vol. 1, 1881, p. 158
(Singapore). — Day, Fauna British India,
vol. 2, 1889, p. 89. — Elera, Cat. Fauna Filip.,
vol. 1, 1895, p. 531 (Luzon, Manila, Cavite,
Santa Cruz). — Ishikawa and Matsumura,
Prelim. Cat. Fish. Mus. Tokyo, 1897, p. 34.

Tetraroge kagoshimensis Ishikawa,
Proc. Nat. Hist. Dep., Imp. Mus.,
Tokyo, vol. 1, p. 13, pl. 8, fig. 1, 1904
type locality, Kagoshima.

Eusphex kagoshimensis Jordan and
Starks, Proc. U. S. Nat. Mus., vol.
27, p. 171, 1904 (Tokyo).

1415

Siganus virgatus (Valenciennes).

Amphacanthus virgatus Valenciennes,

Fist. Nat. Poiss.; vol. 10, 1835, p. ¹⁸³47. Java.

— Schlegel and Müller, Verhand. Nat. Ges. Zool., 1839-44, p. 11, plate 3, fig. 1. (Sumatra, ^{Vanikoro, Junior}).

— Bleeker, Nat. Tijds. Ned. Indië, deel 3, 1852, p. 53 (Singapore); l.c., deel 7, 1854, p. 227 (Macassar); l.c., deel 8, 1855, p. 344 (Duisend Island); l.c., deel 9, 1855, p. 282 (Macassar); l.c., deel 10, 1856, p. 347 (Rio, Bintang); l.c., deel 15, 1858, p. 220 (Biliton), p. 242 (Singapore); l.c., deel 18, 1859, p. 354 (Bawean); l.c., deel 21, 1860, p. 138 (Tuntok, Banta); l.c., deel 22, 1860, p. 245 (Batovesendi and Tambelang, Bawean). — Bleeker, Act. Soc. Sci. Ind. Néerl., vol. 1, no. 3, 1856, p. 8 (Macassar); l.c., vol. 3, no. 5, 1857-58, p. 2 (Macassar); l.c., vol. 3, no. 9, 1857-58, p. 4 (Tuntok). — Kner, Reise Novara, Fische, 1866, p. 209

Depth $3\frac{1}{4}$; head $2\frac{1}{2}$. Snout 3
 in head from snout tip; eye $4\frac{1}{4}$,
 $1\frac{1}{2}$ in snout; greater than
 interorbital; maxillary reaches
 opposite front of eye, Expansion
 $1\frac{1}{2}$ in eye, length 3 in head from
 snout tip; band of villiform
 teeth in each jaw and in \wedge -form
 band on vomer, but palatines
 toothless; upper profile of inter-
 orbital straight and oblique.

Two truncate ^{obtus} preorbital
 spines, ~~upper~~ ^{upper} longer than
 lower ~~which~~ ^{which} shorter than
 eye; preopercle with 5 obtuse
 spines, upper longest; 2
 opercular spines, divergent;
 suprascapular spine obtuse.
 Skin with small conic points,
 most numerous on sides of head
 and trunk. No skinny flaps.
 Lateral line axial, off simple,

wide set tubules.

D. XII, 9, origin of spinous fin over front of eye, first spine $2\frac{1}{4}$ in ^{total length} head, first ray $2\frac{1}{2}$; A. III, 8, third spine 4, fifth ray $2\frac{4}{5}$; caudal $1\frac{2}{3}$, convex behind; least depth of caudal peduncle $3\frac{7}{8}$; pectoral $1\frac{1}{2}$, rays 8, III; ventral rays I, 3, fin $2\frac{1}{5}$ in total head length.

Rose gray, ^{Dorsals} ~~above~~ above and ~~anal~~ below, also caudal membranes posteriorly brownish. Iris above dotted with yellowish brown on silvery. Length 55 mm. (Bleeker.)

East Indies, Philippines, Japan.

Cocotropus pottii Steindachner

Cocotropus pottii Steindachner, Ann.
k. k. naturh. Hofmuseums, Wien,
vol. 11, p. 203, pl. 4, fig. 1, 1896
(type locality, Kobe, Japan). —
Jordan and Snyder, Annot. Zool.
Japon., vol. 3, p. 101, 1901 (reference).

Erisphex pottii Jordan and Starks,
Proc. U. S. Nat. Mus., vol. 27, p. 70, 1904
(Tokyo; Wakanoura; Matsushima Bay;
in 61 fathoms).

1411

by slaty blue and above dotted with round seal brown spots. On back undulating narrow slate blue lines, these breaking into round dots anteriorly and posteriorly; first reaches from first or second dorsal spine to penultimate, second broken far as seventh dorsal spine, then parallels first stripe; below about 6 others breaking into round spots on caudal peduncle; below these 4 or 5 very waved stripes; on anterior side vertical undulating stripes, - about 10 to 12, reaching from second horizontal stripe to about level of lower pectoral base; on lower side above anal base ground color as round yellow spots. Dull orange are on gill opening before front of pectoral. Vertical fins yellowish near body color, without spots. Pectoral rays bright yellow, membranes hyaline. Ventral pale.

1843

Depth $2\frac{4}{5}$ to $2\frac{7}{8}$; head 3 to $3\frac{1}{5}$, width $1\frac{2}{3}$ to $1\frac{3}{4}$. Snout $3\frac{1}{5}$ to 4. in head from snout tip; eye $4\frac{1}{2}$ to $5\frac{1}{2}$, $1\frac{1}{4}$ to $1\frac{1}{2}$ in snout, subequal with interorbital; maxillary reaches $\frac{1}{4}$ to $\frac{1}{2}$ in eye, expansion 1 to $1\frac{1}{3}$ in eye, length 2 to $2\frac{1}{10}$ in head from snout tip; teeth minute, in narrow villiform bands in jaws and on vomer, none on palatines; interorbital 5 to $5\frac{1}{5}$, low, depressed medially; preorbital spine but slightly less than preopercular spine, long as eye; on preopercle 3 others below, broad and gradually smaller to lowest; 2 rather small opercular spines. Gill rakers 5 or 6 + 6 or 7, short, low tubercles, $\frac{1}{3}$ of gill filaments, which $1\frac{3}{5}$ in eye.

Skin covered with papillate-like prickles, scarcely rough to

1844

touch; present over most of head, inclusive of muzzle and maxillary. About 11 pairs of close set, small, inconspicuous tubes in lateral line, which rather high and axial along side of body.

D. X to XII, 11, first spine $2\frac{1}{3}$ to $2\frac{2}{5}$ in total head length, soft fin height $1\frac{7}{8}$ to $2\frac{1}{4}$; A. 11 or 12, fin height 2 to $2\frac{1}{4}$; caudal $1\frac{1}{6}$ to $1\frac{1}{4}$, little convex behind; depth of caudal peduncle $3\frac{2}{5}$ to $3\frac{3}{4}$; pectoral 1 to $1\frac{1}{8}$, rays 11; ventral rays I, 2, fin length 2 to $2\frac{1}{8}$ in total head length.

Brown generally, with some obscure cloudings or mottlings, on back more or less as spots. Iris gray, with small dark spots. Spinous dorsal pale brownish, with dark specks, and dark or blackish blotch above medially on fin. Soft dorsal blackish

1845
brown marginally, with dark
cloudings. Anal like soft dorsal.
Caudal brownish basally, blackish
brown on outer half with very
narrow white edge. Paired fins
brownish, with narrow white
edges, pectorals blackish brown
terminally.

Japan.

U. S. N. M., no. 51353. Matsushima.
D. S. Jordan and J. Q. Snyder.
Length 80 mm.

U. S. N. M., no. 51391. Tokyo.
D. S. Jordan and J. Q. Snyder.
Length 88 mm.

Cocotropius achrurus (Regan)

Erisphex achrurus Regan, Ann.
Mag. Nat. Hist., London, ser. 7, vol.
15, p. 21, pl. 2, fig. 3, 1905 (type
locality, Inland Sea of Japan).

1418

Depth $1\frac{3}{4}$ to $1\frac{7}{8}$; head $3\frac{1}{3}$ to $3\frac{3}{4}$, width $1\frac{7}{8}$ to 2. Snout $2\frac{1}{8}$ to $2\frac{1}{4}$; eye $2\frac{3}{5}$ to $3\frac{1}{4}$, 1 to $1\frac{1}{2}$ in snout, 1 to $1\frac{1}{4}$ in interorbital; teeth about 36 in each jaw maxillary $3\frac{2}{3}$ to $3\frac{3}{4}$ in head; interorbital $2\frac{1}{2}$ to $2\frac{7}{8}$, broadly convex; infraorbitals, preopercle flange, opercle and scapular arch striate. Gill rakers 5 + 21, short, bifid points.

Scales small, ovoid, cycloid, 50 to 80 circuli. Cheek naked or with a few scattered small scales, often naked in young.

D. XIII, 9, I or 10, I, fifth spine $1\frac{3}{5}$ to $1\frac{2}{3}$ in head, fourth ray $1\frac{1}{4}$ to $1\frac{2}{5}$; A. VII, 8, I or 9, I, third spine $1\frac{2}{5}$ to $1\frac{1}{2}$, third ray $1\frac{1}{4}$ to $1\frac{1}{2}$; caudal slightly emarginate in young, little more so with age, $2\frac{7}{8}$ to $3\frac{1}{2}$ in combined head and body; least depth of caudal peduncle $2\frac{7}{8}$ to 4 in head; pectoral $1\frac{1}{8}$; ventral $1\frac{1}{4}$.

Dull brown generally, but little paler below and usually posterior half of body slightly lighter. Iris brownish. Broad dark brown band from predorsal forward to eye and then obliquely to chin, its width equal to eye. Another parallel oblique deep brown band from anterior portion of spinous dorsal down to pectoral axil and then across breast, its width greater than anterior band above though more or less narrowing below; in adults not extending below pectoral base; same-

1847

Depth $2\frac{3}{4}$ to 3; head $3\frac{1}{4}$ to $3\frac{1}{2}$.

Snout 4 in head from snout tip; eye 4, 1 in snout, 1 in interorbital; maxillary reaches $\frac{1}{8}$ in eye, expansion $1\frac{3}{4}$ in eye; length 2 in head from snout tip; preorbital with 2 spines, posterior longer; preopercle with 4 spines, uppermost longest.

Body covered with velvety prickles.

D. XII, 12, first spine 2 in total head length, third and fourth shortest or 3 in head, from it rays increase in length to middle soft rays; which $1\frac{2}{3}$ length of head; A. II, 10, fourth ray $1\frac{7}{8}$; caudal $1\frac{1}{3}$, convex behind; least depth of caudal peduncle $3\frac{2}{3}$; pectoral 1, reaches anal origin or little beyond; ventral $2\frac{1}{2}$ in

Head, rays I, 2.

Reddish brown, marbled with darker. Dorsal, anal and pectoral with dark markings or nearly uniformly blackish. Caudal pale, sharply separated from dark ground color of body.

Length 70 mm.

(Regan.)

Inland Sea of Japan.

Genus Coccotropsis Barnard

Coccotropsis Barnard, Ann. South African Mus., vol. 21, pt. 2, p. 919, Oct. 1927. (Type Tetraroge gymnoterma Gilchrist, monotypic.)

Body elongately ovate, tapers back from head. Head large, obtuse. Snout convex. Eye small, little elevated, and within front half of head. Mouth low, little inclined. Maxillary extends below eye, expanded behind. Small teeth in jaws and on vomer, none on palatines. Armature of head rather well developed. Gill rakers nearly rudimentary. No scales, body covered with

1421

though usually they appear as oblique
short bars ~~of lines~~ all inclined from
the infraorbital limits toward the
edge of the gill-opening.

thin smooth skin. Dorsals continuous, first begins over eye, with 15 spines and 15 or 6 rays. Anal with 3 spines and 4 rays, which like dorsal rays are branched. Caudal small. Pectoral large, reaches anal. Ventral small.

One species. Differs from Cocotropus in having 3 anal spines and 4 rays and all the soft fin rays apically branched, and the preorbital and preopercular spines sharp.

Coccotropsis gymnoderma (Gilchrist)

Tetraroge gymnoderma Gilchrist,
 Marine Investig. South Africa, vol.
 4, p. 147, pl. 37, 1906 (type locality,
 Cape St. Blaize; Great Fish Point
 Lighthouse; Bird Island Lighthouse;
 False Island; Rockland Point;
 Seal Island; Bakoven Rock;
 Swart Klip; Fish Hook Bay;
 in 5 to 59 fathoms).

Coccotropsis gymnoderma Barnard,
 Ann. South African Mus., vol. 21,
 pt. 2, p. 919, Oct. 1927 (False Bay;
 Algoa Bay; in 5 to 60 fathoms).

1420

Andaman, East Indies, Philippines,
China.

A very abundant and variable species
in the Philippines. It is closely related
to Siganus doliatus, but differs in
a slightly deeper body and less lined
color & pattern. Young examples often show
the caudal with 5 or 6 dark cross-bands
and the soft dorsal and anal with dark
cross-bands. Although we admit Siganus
doliatus as distinct it is with some
hesitancy, as we have 3 examples listed
under the present species which surely
appear intermediate in color-pattern.
The largest (12897) has 13 vertical bluish
lines which extend well down on the
lower sides. The last line is about
opposite the base of the fourth anal
spine and then 4 or 5 longitudinal lines
extend backward on hind part of tail
and caudal peduncle. On the right side
of the same fish are 20 vertical bluish
lines and the last is about opposite front
of soft dorsal and the longitudinal
lines correspondingly short. The markings
on the opercle ~~of these variants are~~
~~equally diverse for on the left side~~ are
reticulations, which are in agreement
with Günther's compilation of his
Pteris doliata, as he says, "those on
the operculum reticulated." In the
examples we describe as Siganus doliatus
they may be a little vermiculate below

Depth 3; head $2\frac{3}{4}$. Snout 3
in head; eye 4, $1\frac{1}{5}$ in snout,
1 in interorbital; maxillary
reaches opposite hind eye edge,
expansion equals eye, length
2 in head; villiform teeth in
jaws and on vomer, none on
palatines; interorbital equals
eye. Bony ridges on snout and
interorbital not marked.
Preorbital with sharp spine
and smaller one at base.
Preopercle spines 4, last longest.
Two blunt spines on upper part
of opercle. No dermal appendages
to lower jaw.

Lateral line with 8 tubes.

No scales.

D. XV, 5 or 6, origin over
hind edge of eye, second spine
2 in head, second ray $1\frac{9}{10}$; A.

III, 4, third spine $2\frac{1}{8}$, first ray $2\frac{1}{8}$;
caudal $1\frac{1}{3}$, truncate; least
depth of caudal peduncle $4\frac{1}{5}$;
pectoral $1\frac{1}{3}$, reaches second
anal spine; ventral reaches vent,
length $1\frac{4}{5}$ in head.

Dark brown over head and
front part of body. Brown
band over body at beginning
of anal and one across root
of tail. When freshly captured
brownish brick red in large
patches, chiefly behind head
and under anterior part of
dorsal, in middle of body
and on caudal region. Sometimes
color appears in dots in these
regions. All fins speckled with
brown dots. (Gilchrist.)

South Africa. According to
Barnard reaches 53 mm.

Genus Paraploactis Bleeker

Paraploactis Bleeker, Nederl. Tijds.
Dierk., vol. 2, p. 168, 1865. (Type
Paraploactis trachyderma Bleeker,
monotypic.)

Preorbital and preopercular
spines obtusely truncate.

Branchiostegals 6. No vomerine teeth.

Dorsal with 13 spines and 11 rays,
spiny fin with an anterior division.
Anal with single spine and 9
rays. Ventral with spine and 3
rays.

fins brown.

Mauritius, Ceylon, East Indies, Philippines, Micronesia, Polynesia, Hawaii. The adult very strongly resembles Acanthurus lourme, but may easily be distinguished by its well developed rostral protuberance and the caudal fin without any filaments. Even the very young usually show the little prominence midway on the front profile of the snout.

7463. Bolalo Bay. December 21, 1908.

Length 283 mm.

7201. Cebu Island, Hinunangan Bay, Leyte. July 30, 1909. Length 196 mm.

Paraploactis trachyderma Bleeker

Paraploactis trachyderma Bleeker,
Nederl. Tijds. Dierk., vol. 2, p. 169, 1865
(type locality, Australia); Verh.
Kon. Akad. Wet. Amsterdam, vol.
16, no. 2, p. 8, 1876 (no locality).
— McCulloch, Proc. Linn. Soc. New
South Wales, vol. 40, no. 2, p. 272, 1915
(Moreton Bay, Queensland);

~~McCulloch~~ Austral. Mus. Mem.,
no. 5, pt. 3, p. 397, Nov. 28, 1929
(reference). — Whitley, Rec. Austral.
Mus., vol. 19, ^{no. 1,} p. 100, pl. 12, fig. 5, 1933.
(Moreton Bay).

Aplouctis lichen de Vis, Proc. Linn.
Soc. New South Wales, vol. 9, pt. 3, p. 461,
Nov. 29, 1884 (type locality, Dunnwich
[= Moreton Bay, Queensland]).

with age, 1 to $1\frac{1}{2}$; least depth of
caudal peduncle $4\frac{2}{3}$ to $5\frac{1}{3}$; pectoral
 $1\frac{1}{3}$ to $1\frac{2}{5}$; ventral $1\frac{2}{3}$ to $1\frac{4}{5}$; caudal
with 2 bony bucklers, anterior little
larger or base longer than eye, not
present in our youngest example.

Deep slaty brown generally,
with gray tinge in fresher examples.
Side with many short, dusky or
bluish transverse parallel lines.
Iris dusky. All along upper and
lower boundaries of body and over
most of head many rather close
set deep brown spots, paler on
lower surfaces. Dorsal and anal
uniform dusky brown. Caudal largely
pale brown, base dusky. Paired

2 Erosa australiensis Borodon,
Bull. Vanderbilt Marine Mus.,
vol. 1, no. 3, p. 90, pl. 2, 1932
(type locality, Queensland).

East Indies, China, Melanesia.

The differences as shown in Garrett's figure as published by Günther and Bleeker's figures, are evidently due to inaccuracies in the former. Garrett shows the scales about 60 in a lateral series and Bleeker about 75. A very elegant, trim little fish, the most slender of its family.

Genus Aplouactes Schlegel

Aplouactes Schlegel, Fauna Japonica,
Pois., pts. 2-4, p. 51, 1843. Ctypic.
(~~van~~ Richardson, Zool. Voy. Vulphur,
Fishes, p. 72, 1844. Type Synanceia
(Aplouactes) aspera Richardson,
monotypic.)

10-22
10-22

8353. Same locality. August 21, 1909. 1156

Length 180 mm.

5901. Polloc, Mindanao. May 22, 1908.

Length 220 mm.

A953. Hadaa Island. November 17, 1909. Length 513 mm.

14681. Langa Point, Luzon. June 24, 1909. Length 165 mm.

2190 (D. 5329).

November 19, 1908. Length 118 mm.

52520 U.S.N.M. Lipia, Samar. Bureau of Fisheries. Length 137. As Acanthurus incipiens.

84203 U.S.N.M. ^{Cebu,} Philippines. Length 245 mm. As Acanthurus ~~non~~

50707 U.S.N.M. Honolulu. Dr. D. P. Jenkins. Type Acanthurus incipiens.

Haploactis Legassey, Nomencl.

Zool., Index Univ., p. 172, 1846.

(Type Synanceia (Aploactis)
aspera Richardson.)

Aploactis Kaup, Archiv

Naturg., vol. 24, pt. 1, p. 331,

1858. (Type Synanceia..

(Aploactis) aspera Richardson.)

Body very elongated. Snout short. No Palatine teeth. Mouth large, oblique. A continuous bony ridge across cheek. Dorsal begins over posterior half of eye, deeply notched, 3 anterior spines separated. No anal spines. Ventral with spine and 2 rays.

1859

Aplouctes aspera (Richardson)

Synanceia (Aplouctes) aspera
Richardson, Zool. Voy. Sulphur,
Zool., p. 72, 1846 (type locality,
Japan; on Schlegel).

[1054]. Lode Bay, Westward
Island. March 13, 1901. Length
162 mm.

8911. Mabel Island. September
21, 1901. Length 173 mm.

[1186]. Gagap Bay, Luzon.
February 23, 1901. Length 14 mm.

One example. Kowit Harbor,
Makyan Island. November 25, 1901.
Length 110 mm.

8683. Luta Bay, Luta Island.
September 19, 1901. Length 106 mm.

December 22, 1902. Length 264 &
266 mm. Vlaty above, becoming
thick below. Lower side with
darker brown. Outside edge whitish.
Dorsal and anal both color, with

Aploactis aspera Richardson

Ichth. China and Japan, p. 212,
1846 (Japan).

— Bleeker, Verh. Batavia.
Genoot. (hal. Ichth. Japan),
vol. 25, p. (12) 29, 1853
(Nagasaki); Act. Soc. Sci.

Ind. Neerl., vol. 6, p. 246,

1857-58 (1859) (Japan). —

Günther, Cat. Fish. Brit.

Mus., vol. 2, p. 142, 1860 (Japan).

— Bleeker, Ned. Tijds. Dierk.,

vol. 4, p. 141, 1873 (China);

Verslag. Kon. Akad. Wet.

Amsterdam, ser. 2, vol. 9, p.

300, 1876 (); vol. 18,

p. 12, 1879.

— Steindachner and Döderlein,
Denks. Akad. Wiss. Wien,
math.-naturw. Kl., vol. 49, p. 197,
1884 (Kagoshima, Japan).

— Jordan and Starks, Proc.
U. S. Nat. Mus., vol. 27, p. 171,
fig. 20, 1904 (Nagasaki).

— Jordan, Tanaka, Snyder,
Journ. College Sci. Tokyo, vol.
33, p. 252, fig. 187 (copied). 1913
(reference).

— Chu, Biol. Bull. St. John's
Univ., vol. 1, p. 146, Jan. 1931.

— Whitley, Rec. Austral. Mus., vol. 19,
no. 98, 1933 (Japan).

1863

Aploactis aspora Jordan and Snyder,
Annotat. Zool. Japon., vol. 3, p. 100,
1901 (reference) (error).

Haploactes cottoides Van der Hoeven,
Handb. Zool., ed. Clark, vol. 2,
p. 184, 1858 (on Aploactis Schlegel).

8458 to 8460. Cagayaness Island.

March 31, 1909. Length 300 to 349 mm.
3 examples.

7797. Cuxisigan Island, Palabae.

January 3, 1909. Length 310 mm.

6524. Cebu market. April 5, 1908.

Length 182 mm.

[1844] Cebu market. August 23, 1909.

Length 120 mm.

7436 and 14333. Dalanguem Island.

April 8, 1909. Length 163 to 170 mm.

2 examples.

4736. Danawan Island. September

27, 1909. Length 300 mm.

7502 and 7503. Endeavor Strait,

Malampaya Sound, Palawan.

1864

Aploactis pusillus Bleeker, Act. Soc.
Sci. Ind. Neerl., vol. 5, no. 9, p. (2) 6,
pl. 1, fig. 2, 1858-59 (Nagasaki).

1443
14356. Paron Point, Albany Gulf, Luzon.
June 21, 1909. Length 190 mm.

5897. Polloc, Mindanao. May 22, 1908.
Length 205 mm.

7379 and 14710. Port Caltoun^m. December
15, 1908. Length 164 to 207 mm.

15475 and 15476. Port Natalvi, Luzon.
November 23, 1908. Length 210 to 214 mm.

6375. Port Gamelo. July 13, 1908.
Length 230 mm.

15152. Port Elm, west of Pinan Island.
December 17, 1908. Length 204 mm.

8252 and 8253. Reef of Southern Lagoon.
February 26, 1908. Length 140 to 163 mm.

14944. Talise Island. November 9, 1909.
Length 115 mm.

14310 and 14311. Tura Island. December 14,
1908. Length 150 to 178 mm.

22859 and 22884. Togean Bay, Togiean Island.
November 19, 1909. Length 90 to 118 mm.

U. S. N. M., No.

Albatross Collection 3753. D. 5504.

Macabalan Point Light (Mindanao), S. 39° E., 6 miles (N. lat. $8^{\circ} 35' 30''$, E. long. $124^{\circ} 36'$), northern Mindanao and vicinity. In 200 fathoms. August 5, 1909.

Length 119 mm. Type.

U. S. N. M., No.

Albatross Collection 3754, 3755.

D. 5504. Same data. Paratypes.

Length 95 to 107 mm.

Philippines.

(Aplousiaster philippinus)

1871

2050. D. 5536. Apo Island
(C.), S. 26° W., 11.8 miles (N. lat. 9°
 $15'45''$, E. long. $123^{\circ}22'0''$), between
Negros and Siquijor. In 279
fathoms. August 19, 1909. Length
89 mm.

3697. D. 5387. Bayatao Island
Light (outer), S. 80° E., 2.7 miles
(N. lat. $12^{\circ}54'40''$, E. long. $123^{\circ}20'30''$),
between Burias and Luzon. In
209 fathoms. March 11, 1909. Length 98 mm.

2599. D. 5354. Cape Melville
Light, N. 85° E., 16.8 miles (N. lat. 7°
 $47'50''$, E. long. $116^{\circ}43'15''$), Balabac
Strait. In 117 fathoms. January 1,
1909. Length 95 mm.

3230. D. 5365. Cape Santiago
Light, N. 73° W., 6.7 miles (N. lat. 13°
 $44'24''$, E. long. $120^{\circ}45'30''$), Balayan
Bay, Luzon. In 214 fathoms. February
22, 1909. Length 104 mm.

1872
2014. D. 5502. Macabalan Point
Light (Mindanao), S. 35° E., 8.2
miles (N. lat. $8^{\circ} 37' 37''$, E. long.
 $124^{\circ} 35'$), northern Mindanao
and vicinity. In 214 fathoms.
August 4, 1909. Length 110 mm.

1683, 1715, 3161. D. 5503. Ma-
cabalan Point Light (Mindanao),
S. 31° E., 6.6 miles (N. ^{lat.} $8^{\circ} 36' 26''$, E.
long. $124^{\circ} 36' 8''$), northern Mindanao
and vicinity. In 226 fathoms.
August 4, 1909. Length 101 to 125
mm.

1401. D. 5505. Macabalan Point
Light (Mindanao), S. 31° E., 7.7
miles (N. lat. $8^{\circ} 37' 15''$, E. long.
 $124^{\circ} 36'$), northern Mindanao.
and vicinity. In 220 fathoms.
August 4, 1909. Length 109 mm.

3935. D. 5221. San Andreas
Island (W.), S. 27° E., 5.50 miles
(N. lat. $13^{\circ} 38' 15''$, E. long. $121^{\circ} 48' 15''$),
between Marinduque and Luzon.
In 193 fathoms. August 24, 1908.
Length 101 mm.

2990. D. 5374. Tayabas Light
(outer), N. 9° E., 7.4 miles (N. lat.
 $13^{\circ} 46' 45''$, E. long. $121^{\circ} 35' 8''$),
Marinduque Island and vicinity.
In 190 fathoms. March 2, 1908.
Length 110 mm.

3,435, D. 5221, Point Tagolo
Light, S. 11° E., 3 miles (N. lat.
 $8^{\circ}47'$, E. long. $123^{\circ}22'30''$),
northern Mindanao and vicinity.
In 221 fathoms. August 10, 1909.

Genus Membracidichthys Whitley

Membracidichthys Whitley, Rec.

Austral. Mus., vol. 19, p. 102, 1933.

(Type Coccotropus obbesi Weber,
orthotypic.)

Body elongate. Lateral line
11. Dorsal begins over middle
of eye, 3 anterior spines elevated
and form distinct but not
separated fin. Anal rays 8.
~~Pec~~ Pectoral short, rounded.

Membracidichthys

1875

Cocotropus obbesi (Weber)

Cocotropus obbesi Weber, Siboga Exped.,
vol. 65, Fische, p. 503, figs. 104-105,
1913 (type locality, northern
Sulawesi, Sulu Archipelago, in
16 to 23 meters).

Membracidichthys obbesi Whitley,
Rec. Austral. Mus., vol. 19, no. 1, p.
102, August 2, 1933 (reference).

1412
9002. Maetan Cove, Maetan Island.
April 6, 1908. Length 141 mm.

15795. Makeei Island, Palawan.
April 5, 1909. Length 160 mm.

6158 and 6159. Mansalay, Mindanao.
June 4, 1908. Length 238 to 255 mm.

20297 and 20298. Near Palag Bay, Luzon.
June 16, 1909. Length 215 to 238 mm.

7968 and 15654. Pagapas Bay, Luzon.
February 20, 1909. Length 235 to 244 mm.
Generally lemon yellow, brighter posteriorly.
Dark brown stripe from nape through eye
to chin about width of eye and numerous
spots above eye within bar; on fading
spots ocellate brownish centers and
yellow rim. Stripes on body bluish,
vertical in suprapectoral region,
horizontal above and posterior and
breaking into spots more or less on
back anteriorly and caudal peduncle.

1876

Depth $3\frac{1}{4}$; head $2\frac{4}{5}$, width $1\frac{1}{8}$.
Snout $2\frac{7}{8}$ in head; eye 4, $1\frac{1}{2}$ on
snout; maxillary nearly reaches
eye, length $2\frac{2}{3}$ in head; upper
front profile of head oblique,
nearly straight from snout tip
to dorsal origin. Hind supra-
orbital edge with several
sculptured knobs; before and
below broad ledge over preorb-
ital with 3 broad knobs;
interorbital with pear-shaped
pit, encircled by broad crest,
ending toward nostrils, and
laterally each side through 2
grooves the supraorbital edge;
preopercle with 5 large,
short, knob-like spines;
opercular spines 2.

Body and fins to middle
with numerous small close set
points or thorns. No scales.

Lateral line axial, of 12 tubes.

D. ~~XIII~~, 11, first spine inserted over middle of eye, 3 in head, first 3 spines larger than those immediately following which graduated to last which $3\frac{1}{8}$, fifth ray 2; A. II, 8, fifth ray $2\frac{1}{8}$; caudal $1\frac{7}{8}$, convex; depth of caudal peduncle $3\frac{1}{4}$; pectoral $1\frac{2}{3}$, rays 14; ventral rays I, 3, fin 2.

Gray brown, with somewhat paler fins. Caudal pale, with bright specks. Length 49 mm. (Weber)

Sulu Archipelago.

1878

Genus Aploactisoma Castelnau

Aploactisoma Castelnau, Proc.
Zool. Acclimat. Soc. Victoria,
vol. 1, p. 244, 1872. (Type

Aploactisoma schomburgkii
Castelnau = Aploactis milesii
Richardson, monotypic.)

Haploactisoma O'Shaughnessy,
Zool. Rec., p. 110, 1873 (1875).
(Type Aploactisoma schomburgkii
Castelnau) (emendation).

Distinguished from Aplousactis
 by its cephalic architecture, the
 Cheek crossed by a series of
 knobs, long or short and small
 mouth. ¹² Five dorsal spines
 with broad canals forming
 a differentiation but not separate
 fan structures, originating over
 anterior half of body. 10-12 longate.

Aplouactes milesii Richardson

Aplouactes milesii Richardson, Proc.
Zool. Soc. London, p. 60, pl. 1, figs.
1-2, nov. 12, 1850 (type locality,
King George's Sound, Western
Australia). — Bleeker, Verh. Kon.
Akad. Wet. Amsterdam, vol. 2, p. 5,
1855.

— Günther, Cat. Fish. Brit. Mus., vol.
2, p. 142, 1860 (copied). — Woodward,
Western Australia Year Book, p. 271,
1900-1 (1902). — McCulloch, Proc.
Linn. Soc. New South Wales, vol. 40, no. 2,
p. 272, 1915.

— McCulloch, Austral. Mus. Mem.,
no. 5, pt. 3, p. 397, nov. 28, 1929 (reference).
— Waite, Rec. South Austral. Mus., vol.
2, no. 1, p. 168, fig. 274, 1921 ().

1185

of eye and pectoral base. Dorsal translucent, cloudy, margin yellow. Edges of dorsal, anal and caudal filaments purple. Anal axil purplish on base.

14432. Gabut, Sorsogon, Luzon.
June 23, 1909. Length 150 mm.

6355. Inamucan Bay, Mindanao.
August 8, 1909. Length 165 mm.

22811 and 22812. Zolo. March 6-7, 1908. Length 120 to 122 mm.

6361, 6367, 6369. Zolo Island.
March 7, 1908. Length 115 to 140 mm.

9285. Murcielago Bay, Mindanao.
August 9, 1909. Length 210 mm.

7345. Same locality. August 20, 1909.
Length 225 mm.

1281
Aploactisoma milesii Whitley,
Rec. Austral. Mus., vol. 19, no. 1,
p. 99, Aug. 2, 1933 (Western
Australia; type? of Aploacti-
soma schomburgkii).

Aploactisoma schomburgkii
Castelnau, Proc. Zool. Acclim.
Soc. Victoria, vol. 1, p. 244, 1872
(type locality, St. Vincent's
Gulf, South Australia);
vol. 2, p. 64, 1873.

Aploactis schomburgkii
Macleay, Proc. Linn. Soc. New
South Wales, vol. 5, no. 3, p. 441,
1881 (copied).

Depth $3\frac{2}{5}$; head $3\frac{1}{5}$, width $1\frac{3}{4}$.
 Snout 3 in head; eye $2\frac{3}{4}$, $2\frac{4}{5}$
 in snout, $2\frac{1}{5}$ in interorbital;
 orbit 6 in head, 2 in snout;
 maxillary reaches $\frac{3}{4}$ to eye,
 expansion equals eye, length
 $3\frac{1}{8}$ in head; skin minutely
 villiform, in rather broad bands
 on face and small patch on
 snout, none on pectorals;
 interorbital 4, comp. Gill rakers
 2 + 6, low, short tubercles, greatly
 lower than gill filaments,
 which $1\frac{1}{4}$ in eye. Tubercular
 knots on head as 2 preorbital, 1
 below eye small, 2 moderate ones
 on suborbital stay; single post-
 ocular long on each side and 3
 more below of which posterior
 larger; 2 long of ocular,
 preopercula 1 at end of suborbital.

stay long as eye and 4 more rounded ones below, also small one at suprascapula.

Body and head covered all over with close set, short spinules, bases broad, giving rough velvety feel to touch. Lateral line with 12 large papillae, each excepting last 2 or 3 each end in rather long pointed papilla or tentacle. Fin membranes all more or less granular, basally more rough velvety.

D. XIV, 14, first spine inserted over front eye edge, length 2 in head, first ray 3 and soft fin edge with membranes well notched after each ray tip; A. II, 10, I, first ray 4, soft fin notched like soft dorsal; caudal $1\frac{3}{5}$, rounded; least depth of caudal peduncle 3; pectoral $1\frac{1}{4}$,

1885

rays 10, edge of membranes notched;
ventral rays $\underline{\underline{I, 2}}$, fin length $2 \frac{1}{10}$
in head.

Dark or dusky brown. Iris
gray black. Spines of body with
brownish cast.

Western Australia, South Australia,
New South Wales.

U. S. N. M., No. . Macleay
River, New South Wales. D. G.
Stead. Length 152 mm.

Aploactisoma milesii horrenda
Whitley

Aploactisoma milesii horrenda
Whitley, Rec. Austral. Mus., vol.
19, no. 1, p. 100, pl. 13, fig. 3, Aug-
ust 2, 1933 (type locality,
Port Jackson, New South
Wales; Port Franklin, Victoria).

Aploactis milesii (not Richardson)
Macleay, Proc. Linn. Soc. New South
Wales, vol. 5, no. 3, p. 440, 1881 (Port
Jackson). — Waite, Mem. Nat.
Club New South Wales, p. 48, 1904.

Aploactisoma milesii horrenda

Whitley, Rec. Austral. Mus., vol. 19,

p. 100, pl. 13, fig. 3, 1933 (type

locality, New South Wales).

— Mc Culloch, Austral. Zoologist,
vol. 2, No. 3, p. 118 (not figure),
1922 (New South Wales).

— Whitley, Rec. Austral. Mus.,
vol. 18, p. 119, 1931.

Haploactis miersii Ogilby, Cat.
Fish. New South Wales, p. 22,
1886.

1888

Genus Aniculerosa Whitley

Aniculerosa Whitley, Rec. Austral.
Mus., vol. 19, p. 101, 1933. (Type
Aniculerosa taprobanensis
Whitley, orthotypic.)

Body deep. Profile of head
steep. First 4 dorsal spines
short, forming a separate fin
which originates over the
anterior half of eye.

near Paraploactis and
Sthenopus but differing
notably in the insertion and
extent of the anterior dorsal
fin.

1889

Amiculerosa taprobanensis Whitley

Amiculerosa taprobanensis Whitley.
Rec. Austral. Mus., vol. 19, p. 101, 1933.
(type locality, Ceylon) (on Johnstone).

Aploactis aspersa (not Richardson)
Johnstone, Rept. Pearl Oyster
Fisher. Gulf Manaar,
Herdman, vol. 2, Suppl. Rept.,
pt. 15, pp. 202, 219, 1 (South
of Adam's Bridge, Ceylon).

Genus Insopiscis Whitley.

Insopiscis Whitley, Rec. Austral.
Mus., vol. 19, p. 102, 1933. (Type
Cocotropus altipinnis Waite,
orthotypic.)

Depth 3. Five anterior
dorsal spines long, pungent,
differentiated but not
separated by a notch from
the others; first originates
slightly before anterior edge
of eye.

1891

Insofiscis altipinnis (Waite)

Cocotropus altipinnis Waite,
Rec. Austral. Mus., vol. 5, no. 1,
p. 41, pl. 5, fig. 2, April 14, 1903
(type locality, Lord Howe
Island).

Insofiscis altipinnis Whitley,
Rec. Austral. Mus., vol. 19, no. 1,
p. 102, August 2, 1933 (Type of
Cocotropus altipinnis).

Genus Sthenopus Richardson

Sthenopus Richardson, Zool. Voy.
Samarang, Ichth., p. 10, 1848.

(Type Sthenopus molles
Richardson, monotypic.)

(Sthenopus Packard 1863 in
insects not involved.)

Trichopleura Kaup, Archiv
Naturg., vol. 24, pt. 1, pp. 331, 338,
1858.

(Type Sthenopus molles
Richardson, virtually. Trichopleura

Kaup proposed to replace
Sthenopus Richardson. ~~was~~

Trichopleurus Metchoulsky
1845 in coleoptera not involved.)

~~Gymnocaesio gymnopterus (Bleeker)~~
~~Cassio~~

Cassio gymnopterus Bleeker, Natuurk. Tijds.
Nederl. Indië, vol. 10, 1856, p. 372. Ternate.

— Günther, Cat. Fishes Brit. Mus., vol. 1,
 1859, p. 397 (copied). — Bleeker, Atlas
Ichth. Ind. Néerl., vol. 7, 1873-76, pl. (34)
 310, fig. 5.

X-marus gymnopterus - Bleeker, Arch.
Néerl. Sci. Nat., vol. 8, 1873, p. 181.

Gymnocaesio gymnopterus - Bleeker, Atlas
Ichth. Ind. Néerl., vol. 8, 1876-77, p. 34 (Flores,
 Ternate, Amboina). — Beaufort, Bijdragen
Néerl. Amsterdam, pt. 19, 1913, no. 9, p. 123
 (Lombok).

Sthenopus mollis Richardson

Sthenopus mollis Richardson,
Zool. Voy. Samarang, Deth., p.
10, pl. 2, figs. 6-7, 1848 (type
locality, Sea of China). —
Bleeker, Verslag. Kon. Akad.
Wet. Amsterdam, ser. 2, vol. 9,
p. 299, 1876.

— Whitley, Rec. Austral. Mus.,
vol. 19, no. 1, p. 101, August 2, 1933
(compiled).

Trichopleura mollis Kaup,
Archiv Naturg., vol. 24, No. 1, p. 338,
1858 (on Richardson). —

Günther, Cat. Fish. Brit. Mus.,
vol. 2, p. 143, 1860 (type).

— Bleeker, Nat. Tijds. Overk.,
vol. 4, p. 141, 1873.

— Chu, Biol. Bull. St. John's
Univ., vol. 1, p. 146, January 1931.

Genus Bathyploactis Whitley 1895

Bathyploactis Whitley, Rec. Austral.
Mus. ^(No. 1) vol. 19, p. 102, 1933. (Type
Bathyploactis curtisensis
Whitley, orthotypic.)

Body deep, compressed. Eyes large. Villiform teeth in jaws, on vomer, none on palatines. Nostrils with flaps. Interorbital sunken, trench widest where premaxillaries lie. Four barbels. Long knob-like preorbital and preopercular spines. Skin scaleless, furnished with villi and weak spines along lateral line. Dorsal Gill openings reduced to a small aperture near opercular flap.

twice notched, begins over ¹⁸⁹⁶
middle of eye, anterior 7
spines forming distinct fin,
which not separate from
other spines and rays.
Other fins rounded, with
simple rays. Ventral with
3 rays, last not adnate to
belly.

1897

Bathyploactes curtisensis
ornatissimus Whitley

Bathyploactes curtisensis
ornatissimus Whitley, Rec.

Austral. Mus., vol. 19, no. 1, p.
103, pl. 13, fig. 2, August 2,
1933 (type locality, North
Western Australia).